

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Colgate Operating, LLC 300 N Marienfeld Street, Suite 1000 Midland, Tx 79701				² OGRID Number 371449			
				³ Reason for Filing Code/ Effective Date NW			
⁴ API Number 30 – 015 – 47740		⁵ Pool Name WINCHESTER; BONE SPRING, WEST				⁶ Pool Code 97569	
⁷ Property Code 329864		⁸ Property Name DAKOTA 32 STATE FEDERAL COM				⁹ Well Number 124H	

II. ¹⁰ Surface Location

UL or lot no. P	Section 32	Township 19S	Range 28E	Lot Idn	Feet from the 1,253	North/South Line South	Feet from the 300	East/West line East	County Eddy
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¹¹ Bottom Hole Location

UL or lot no. M	Section 31	Township 19S	Range 28E	Lot Idn	Feet from the 324	North/South line South	Feet from the 30	East/West line West	County Eddy
¹² Lse Code F	¹³ Producing Method Code P	¹⁴ Gas Connection Date 09/01/2021	¹⁵ C-129 Permit Number		¹⁶ C-129 Effective Date		¹⁷ C-129 Expiration Date		

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
329097	LM TOUCHDOWN, LLC	O
329097	LM TOUCHDOWN, LLC	G

IV. Well Completion Data

²¹ Spud Date 05/22/2021	²² Ready Date 09/23/2021	²³ TD 17,602 MD 7,426 TVD 6939	²⁴ PBTD 17,488 MD 6,948 TVD	²⁵ Perforations 7,769-17,369	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size	²⁹ Depth Set		³⁰ Sacks Cement
17.5		13.375	295		376
12.25		9.625	2,893		586 Lead 199 Tail
8.75		5.5	17,588		464 Lead 1,611 Tail

V. Well Test Data

³¹ Date New Oil 10/08/2021	³² Gas Delivery Date 10/08/2021	³³ Test Date 11/13/2021	³⁴ Test Length 24 hours	³⁵ Tbg. Pressure 1765	³⁶ Csg. Pressure 468
³⁷ Choke Size 64/88	³⁸ Oil 1,414	³⁹ Water 2,493	⁴⁰ Gas 1,187		⁴¹ Test Method P
⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Signature: 			OIL CONSERVATION DIVISION		
Printed name: Mikah Thomas			Approved by: <i>PATRICIA MARTINEZ</i>		
Title: Operations Tech			Title: <i>PETROLEUM SPECIALIST</i>		
E-mail Address: mthomas@colgateenergy.com			Approval Date: <i>12/10/2021</i>		
Date: 12/09/2021		Phone: 432-695-4272			

District I

1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III

1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT**WELL LOCATION AND ACREAGE DEDICATION PLAT**

1 API Number 30-015-47740	2 Pool Code 97569	3 Pool Name WINCHESTER; BONE SPRING, WEST
4 Property Code 329864	5 Property Name DAKOTA 32 STATE FED COM	6 Well Number 124H
7 OGRID No. 371449	8 Operator Name COLGATE OPERATING, LLC	9 Elevation 3341'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	32	19-S	28-E		1253'	SOUTH	300'	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	31	19-S	28-E		324'	SOUTH	30'	WEST	EDDY

12 Dedicated Acres 322.98	13 Joint or Infill	14 Consolidation Code	15 Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

SURFACE HOLE LOCATION (SHL)
NEW MEXICO EAST - NAD 83
X=584982.10 LAT.= 32.61334110° N
Y=586893.37 LONG.= 104.19158725° W
NEW MEXICO EAST - NAD 27
X=543802.08 LAT.= 32.61322411° N
Y=586831.72 LONG.= -104.19107907° W
1253' FSL, 300' FEL - SECTION 32
64' FNL, 300' FEL - LEASE LINE

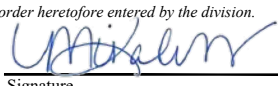
FIRST TAKE POINT (FTP)
NEW MEXICO EAST - NAD 83
X=585129.56 LAT.= 32.61109115° N
Y=586075.03 LONG.= 104.1911188° W
NEW MEXICO EAST - NAD 27
X=543949.53 LAT.= 32.61097414° N
Y=586013.39 LONG.= -104.19060377° W
433' FSL, 100' FEL - SECTION 32
433' FSL, 100' FEL - LEASE LINE
MD = 6,872.00'

LAST TAKE POINT (LTP)
NEW MEXICO EAST - NAD 83
X=574644.72 LAT.= 32.61066543° N
Y=585907.80 LONG.= 104.22516351° W
NEW MEXICO EAST - NAD 27
X=533464.70 LAT.= 32.61054878° N
Y=585846.25 LONG.= -104.22465456° W
325' FSL, 101' FWL - SECTION 31
325' FSL, 101' FWL - LEASE LINE
MD = 17,529.00'

BOTTOM HOLE LOCATION (BHL)
NEW MEXICO EAST - NAD 83
X=574571.92 LAT.= 32.61066176° N
Y=585906.39 LONG.= 104.22539995° W
NEW MEXICO EAST - NAD 27
X=533391.90 LAT.= 32.61054511° N
Y=585844.84 LONG.= -104.22489099° W
324' FSL, 30' FWL - SECTION 31
324' FSL, 30' FWL - LEASE LINE
MD = 17,602.09'

CORNER DATA
NEW MEXICO EAST - NAD 83
A - FOUND IRON PIPE W/ BRASS CAP
N:590726.48' E:575003.78'
B - FOUND IRON PIPE W/ BRASS CAP
N:590725.96' E:577724.25'
C - FOUND IRON PIPE W/ BRASS CAP
N:590871.20' E:580314.74'
D - FOUND IRON PIPE W/ BRASS CAP
N:590848.94' E:582920.61'
E - FOUND IRON PIPE W/ BRASS CAP
N:590907.03' E:585541.35'
F - FOUND IRON PIPE W/ BRASS CAP
N:588276.86' E:585371.95'
G - FOUND IRON PIPE W/ BRASS CAP
N:585641.97' E:585202.31'
H - FOUND IRON PIPE W/ BRASS CAP
N:585627.24' E:582544.32'
I - FOUND IRON PIPE W/ BRASS CAP
N:585612.31' E:579886.02'
J - FOUND IRON PIPE W/ BRASS CAP
N:585597.11' E:577229.43'
K - FOUND IRON PIPE W/ BRASS CAP
N:585581.74' E:574473.78'
L - CALCULATED CORNER
N:588089.02' E:574998.43'
M - FOUND IRON PIPE W/ BRASS CAP
N:588240.05' E:580095.84'

17 OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

 09.10.2021
Signature Date

Mikah Thomas
Printed Name

mthomas@colgateenergy.com
E-mail Address

18 SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.


Date of Survey
Signature and Seal of Professional Surveyor
6/17/2021
Certificate Number



Colgate Energy

Eddy County, NM (N83-NME)

Dakota 32 State Fed Com

04 Dakota 32 State Fed Com 124H

30-015-47740

124H

Design: 124H

Standard Survey Report

02 June, 2021



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Project	Eddy County, NM (N83-NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Dakota 32 State Fed Com		
Site Position:		Northing:	586,983.29 usft
From:	Map	Easting:	584,987.91 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.61358824
		Longitude:	-104.19156799

Well	04 Dakota 32 State Fed Com 124H		
Well Position	+N/-S	0.00 usft	Northing: 586,893.37 usft
	+E/-W	0.00 usft	Easting: 584,982.10 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
Grid Convergence:	0.08 °	Ground Level:	3,341.00 usft

Wellbore	124H		
Magnetics	Model Name	Sample Date	Declination (°)
	IFR	5/22/2021	7.12
			Dip Angle (°)
			60.32
			Field Strength (nT)
			47,737.50000000

Design	124H		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°)
			269.68

Survey Program	Date	6/2/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
14.25	17,543.00	Survey #1 - Gordon MWD (124H)	MWD+IFR1+SAG+FDIR (SQ OWSG MWD + IFR1 + Sag + FDIR Correction	
17,557.75	17,602.09	Survey #2 - PTB (124H)	BLIND	BLIND

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14.25	0.03	150.83	14.25	0.00	0.00	0.00	0.21	0.21	0.00	
28.50	0.07	150.63	28.50	-0.01	0.01	-0.01	0.28	0.28	-1.40	
42.75	0.10	150.43	42.75	-0.03	0.02	-0.02	0.21	0.21	-1.40	
57.00	0.13	150.23	57.00	-0.06	0.03	-0.03	0.21	0.21	-1.40	
71.25	0.17	150.03	71.25	-0.09	0.05	-0.05	0.28	0.28	-1.40	
85.50	0.20	149.84	85.50	-0.13	0.07	-0.07	0.21	0.21	-1.33	
99.75	0.23	149.64	99.75	-0.18	0.10	-0.10	0.21	0.21	-1.40	
114.00	0.27	149.45	114.00	-0.23	0.13	-0.13	0.28	0.28	-1.33	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
128.25	0.30	149.25	128.25	-0.29	0.17	-0.17	0.21	0.21	-1.40
142.50	0.34	149.06	142.50	-0.36	0.21	-0.21	0.28	0.28	-1.33
156.75	0.37	148.87	156.75	-0.43	0.26	-0.25	0.21	0.21	-1.33
171.00	0.41	148.68	171.00	-0.52	0.31	-0.30	0.28	0.28	-1.33
Rustler									
183.60	0.42	164.03	183.60	-0.60	0.34	-0.34	0.88	0.08	121.84
196.20	0.45	177.71	196.20	-0.69	0.36	-0.35	0.86	0.24	108.57
208.80	0.51	188.75	208.80	-0.80	0.35	-0.35	0.87	0.48	87.62
221.40	0.59	197.25	221.40	-0.92	0.32	-0.32	0.91	0.63	67.46
226.00	0.62	199.81	226.00	-0.96	0.31	-0.30	0.85	0.61	55.55
Top of Salt									
234.00	0.67	203.72	234.00	-1.05	0.27	-0.27	0.85	0.65	48.93
247.44	0.76	205.49	247.44	-1.20	0.20	-0.20	0.69	0.67	13.17
260.89	0.85	206.86	260.88	-1.37	0.12	-0.11	0.68	0.67	10.19
274.33	0.94	207.94	274.32	-1.55	0.02	-0.01	0.68	0.67	8.04
287.78	1.04	208.82	287.77	-1.76	-0.09	0.10	0.75	0.74	6.54
301.22	1.13	209.55	301.21	-1.98	-0.21	0.22	0.68	0.67	5.43
314.67	1.22	210.15	314.65	-2.22	-0.35	0.36	0.68	0.67	4.46
328.11	1.31	210.65	328.09	-2.48	-0.50	0.51	0.67	0.67	3.72
341.56	1.40	211.08	341.54	-2.75	-0.66	0.68	0.67	0.67	3.20
355.00	1.50	211.44	354.97	-3.04	-0.84	0.86	0.75	0.74	2.68
368.14	1.53	212.80	368.11	-3.33	-1.02	1.04	0.36	0.23	10.35
381.29	1.56	214.29	381.25	-3.63	-1.22	1.24	0.38	0.23	11.33
394.43	1.60	215.81	394.39	-3.93	-1.43	1.45	0.44	0.30	11.57
407.57	1.64	217.28	407.52	-4.22	-1.65	1.67	0.44	0.30	11.19
420.71	1.69	218.65	420.66	-4.52	-1.88	1.91	0.49	0.38	10.43
433.86	1.72	219.87	433.80	-4.83	-2.13	2.16	0.36	0.23	9.28
447.00	1.76	220.90	446.94	-5.13	-2.39	2.42	0.39	0.30	7.84
460.56	1.78	221.82	460.49	-5.45	-2.67	2.70	0.26	0.15	6.78
474.11	1.79	222.54	474.03	-5.76	-2.95	2.98	0.18	0.07	5.31
487.67	1.80	223.13	487.59	-6.07	-3.24	3.27	0.15	0.07	4.35
501.22	1.80	223.62	501.13	-6.38	-3.53	3.57	0.11	0.00	3.62
514.78	1.80	224.04	514.68	-6.69	-3.83	3.86	0.10	0.00	3.10
528.33	1.80	224.41	528.23	-6.99	-4.12	4.16	0.09	0.00	2.73
533.11	1.80	224.80	533.00	-7.10	-4.23	4.27	0.26	0.00	8.14
Base of Salt									
541.89	1.80	224.72	541.78	-7.30	-4.42	4.46	0.03	0.00	-0.89
555.44	1.79	224.99	555.32	-7.60	-4.72	4.76	0.10	-0.07	1.99
569.00	1.79	225.22	568.88	-7.89	-5.02	5.07	0.05	0.00	1.70
583.45	1.78	225.41	583.32	-8.21	-5.34	5.39	0.08	-0.07	1.31
597.91	1.76	225.55	597.77	-8.52	-5.66	5.71	0.14	-0.14	0.97
612.36	1.75	225.65	612.22	-8.83	-5.98	6.03	0.07	-0.07	0.69
626.82	1.73	225.69	626.67	-9.14	-6.29	6.34	0.14	-0.14	0.28
641.27	1.72	225.69	641.11	-9.44	-6.60	6.65	0.07	-0.07	0.00



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
655.73	1.70	225.63	655.57	-9.75	-6.91	6.96	0.14	-0.14	-0.41
670.18	1.69	225.52	670.01	-10.05	-7.22	7.27	0.07	-0.07	-0.76
684.64	1.67	225.34	684.46	-10.34	-7.52	7.57	0.14	-0.14	-1.24
699.09	1.65	225.09	698.91	-10.64	-7.81	7.87	0.15	-0.14	-1.73
713.55	1.64	224.77	713.36	-10.93	-8.11	8.17	0.09	-0.07	-2.21
728.00	1.62	224.35	727.81	-11.22	-8.40	8.46	0.16	-0.14	-2.91
741.43	1.61	223.87	741.23	-11.50	-8.66	8.72	0.13	-0.07	-3.57
751.20	1.61	223.41	751.00	-11.70	-8.85	8.91	0.13	0.00	-4.69
Yates									
754.86	1.61	223.30	754.66	-11.77	-8.92	8.99	0.09	0.00	-3.05
768.29	1.60	222.63	768.08	-12.05	-9.18	9.24	0.16	-0.07	-4.99
781.71	1.60	221.86	781.49	-12.32	-9.43	9.50	0.16	0.00	-5.74
795.14	1.60	220.97	794.92	-12.60	-9.68	9.75	0.19	0.00	-6.63
808.57	1.60	219.96	808.34	-12.89	-9.92	9.99	0.21	0.00	-7.52
822.00	1.62	218.81	821.77	-13.18	-10.16	10.23	0.28	0.15	-8.56
835.57	1.64	217.37	835.33	-13.48	-10.40	10.47	0.34	0.15	-10.61
849.14	1.66	215.77	848.90	-13.80	-10.63	10.71	0.37	0.15	-11.79
862.71	1.70	214.06	862.46	-14.12	-10.86	10.94	0.47	0.29	-12.60
876.29	1.74	212.27	876.04	-14.47	-11.08	11.16	0.49	0.29	-13.18
889.86	1.78	210.39	889.60	-14.82	-11.30	11.38	0.52	0.29	-13.85
903.43	1.84	208.44	903.16	-15.19	-11.51	11.59	0.63	0.44	-14.37
917.00	1.90	206.37	916.73	-15.59	-11.71	11.80	0.67	0.44	-15.25
930.43	2.44	196.21	930.15	-16.06	-11.89	11.98	4.92	4.02	-75.65
943.86	3.46	187.44	943.56	-16.74	-12.02	12.11	8.28	7.59	-65.30
957.29	4.12	184.01	956.96	-17.62	-12.11	12.21	5.19	4.91	-25.54
970.71	4.24	182.66	970.34	-18.60	-12.16	12.27	1.16	0.89	-10.06
984.14	4.36	181.32	983.74	-19.60	-12.20	12.31	1.17	0.89	-9.98
997.57	4.48	180.06	997.13	-20.64	-12.21	12.33	1.15	0.89	-9.38
1,011.00	4.58	178.91	1,010.51	-21.70	-12.20	12.32	1.01	0.74	-8.56
1,024.43	5.56	177.95	1,023.89	-22.89	-12.17	12.30	7.32	7.30	-7.15
1,037.86	6.65	176.01	1,037.24	-24.31	-12.09	12.23	8.26	8.12	-14.45
1,051.29	7.03	174.94	1,050.58	-25.91	-11.96	12.11	2.98	2.83	-7.97
1,064.71	6.96	174.23	1,063.90	-27.53	-11.81	11.96	0.83	-0.52	-5.29
1,078.14	6.88	173.50	1,077.23	-29.14	-11.64	11.80	0.89	-0.60	-5.44
1,091.57	6.80	172.81	1,090.57	-30.73	-11.45	11.62	0.85	-0.60	-5.14
1,105.00	6.71	172.17	1,103.90	-32.30	-11.24	11.42	0.87	-0.67	-4.77
1,118.43	6.64	171.68	1,117.24	-33.84	-11.02	11.21	0.67	-0.52	-3.65
1,131.86	6.57	171.26	1,130.58	-35.37	-10.79	10.99	0.63	-0.52	-3.13
1,145.29	6.52	170.88	1,143.92	-36.88	-10.55	10.76	0.49	-0.37	-2.83
1,158.71	6.47	170.51	1,157.26	-38.38	-10.31	10.52	0.49	-0.37	-2.76
1,172.14	6.44	170.14	1,170.60	-39.87	-10.06	10.28	0.38	-0.22	-2.76
1,185.57	6.43	169.75	1,183.95	-41.35	-9.79	10.02	0.33	-0.07	-2.90
1,199.00	6.44	169.32	1,197.29	-42.83	-9.52	9.76	0.37	0.07	-3.20



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,212.57	6.49	168.81	1,210.78	-44.33	-9.23	9.48	0.56	0.37	-3.76
1,226.14	6.55	168.26	1,224.26	-45.84	-8.92	9.18	0.64	0.44	-4.05
1,239.71	6.64	167.71	1,237.74	-47.37	-8.60	8.86	0.81	0.66	-4.05
1,253.29	6.72	167.17	1,251.23	-48.91	-8.26	8.53	0.75	0.59	-3.98
1,266.86	6.81	166.67	1,264.70	-50.46	-7.89	8.17	0.79	0.66	-3.68
1,280.43	6.88	166.21	1,278.18	-52.04	-7.51	7.80	0.66	0.52	-3.39
1,294.00	7.15	165.14	1,291.65	-53.64	-7.10	7.40	2.21	1.99	-7.89
1,307.43	8.02	162.48	1,304.96	-55.34	-6.61	6.92	6.98	6.48	-19.81
1,320.86	8.03	162.29	1,318.26	-57.13	-6.04	6.36	0.21	0.07	-1.41
1,334.29	8.02	162.14	1,331.55	-58.92	-5.47	5.80	0.17	-0.07	-1.12
1,347.71	8.00	162.04	1,344.84	-60.69	-4.89	5.23	0.18	-0.15	-0.75
1,361.14	7.98	161.96	1,358.14	-62.47	-4.32	4.66	0.17	-0.15	-0.60
1,374.57	7.95	161.91	1,371.44	-64.24	-3.74	4.10	0.23	-0.22	-0.37
1,388.00	7.93	161.88	1,384.74	-66.00	-3.16	3.53	0.15	-0.15	-0.22
1,401.57	7.92	161.87	1,398.19	-67.78	-2.58	2.96	0.07	-0.07	-0.07
1,415.14	7.92	161.88	1,411.63	-69.56	-2.00	2.39	0.01	0.00	0.07
1,428.71	7.91	161.90	1,425.07	-71.33	-1.42	1.82	0.08	-0.07	0.15
1,442.29	7.91	161.92	1,438.52	-73.11	-0.84	1.25	0.02	0.00	0.15
1,455.86	7.92	161.94	1,451.96	-74.89	-0.26	0.68	0.08	0.07	0.15
1,469.43	7.92	161.96	1,465.40	-76.66	0.32	0.11	0.02	0.00	0.15
1,483.00	7.93	161.96	1,478.84	-78.44	0.90	-0.46	0.07	0.07	0.00
1,496.43	7.93	161.94	1,492.14	-80.21	1.48	-1.03	0.02	0.00	-0.15
1,509.86	7.94	161.91	1,505.44	-81.97	2.05	-1.59	0.08	0.07	-0.22
1,523.29	7.95	161.86	1,518.74	-83.73	2.63	-2.16	0.09	0.07	-0.37
1,536.71	7.96	161.81	1,532.03	-85.50	3.21	-2.73	0.09	0.07	-0.37
1,550.14	7.97	161.74	1,545.33	-87.26	3.79	-3.30	0.10	0.07	-0.52
1,563.57	7.97	161.66	1,558.63	-89.03	4.37	-3.88	0.08	0.00	-0.60
1,577.00	7.97	161.56	1,571.93	-90.80	4.96	-4.45	0.10	0.00	-0.74
1,590.57	7.97	161.43	1,585.37	-92.58	5.56	-5.04	0.13	0.00	-0.96
1,596.25	7.97	161.37	1,591.00	-93.33	5.81	-5.29	0.17	-0.07	-1.09
Capitan									
1,604.14	7.96	161.28	1,598.81	-94.37	6.16	-5.63	0.17	-0.07	-1.12
1,617.71	7.95	161.13	1,612.25	-96.14	6.76	-6.23	0.17	-0.07	-1.11
1,631.29	7.94	160.98	1,625.70	-97.92	7.37	-6.83	0.17	-0.07	-1.10
1,644.86	7.93	160.85	1,639.14	-99.69	7.99	-7.43	0.15	-0.07	-0.96
1,658.43	7.92	160.74	1,652.58	-101.46	8.60	-8.04	0.13	-0.07	-0.81
1,672.00	7.91	160.68	1,666.02	-103.22	9.22	-8.64	0.10	-0.07	-0.44
1,685.43	7.90	160.70	1,679.33	-104.96	9.83	-9.24	0.08	-0.07	0.15
1,698.86	7.89	160.76	1,692.63	-106.70	10.44	-9.84	0.10	-0.07	0.45
1,712.29	7.88	160.84	1,705.93	-108.44	11.04	-10.44	0.11	-0.07	0.60
1,725.71	7.88	160.91	1,719.22	-110.18	11.65	-11.03	0.07	0.00	0.52
1,739.14	7.87	160.96	1,732.53	-111.92	12.25	-11.62	0.09	-0.07	0.37
1,752.57	7.87	160.95	1,745.83	-113.66	12.85	-12.21	0.01	0.00	-0.07
1,766.00	7.88	160.86	1,759.13	-115.40	13.45	-12.81	0.12	0.07	-0.67



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,779.43	7.89	160.64	1,772.44	-117.14	14.06	-13.40	0.24	0.07	-1.64
1,792.86	7.90	160.34	1,785.74	-118.88	14.67	-14.01	0.32	0.07	-2.23
1,806.29	7.92	159.98	1,799.04	-120.62	15.30	-14.63	0.40	0.15	-2.68
1,819.71	7.94	159.60	1,812.33	-122.35	15.94	-15.26	0.42	0.15	-2.83
1,833.14	7.95	159.20	1,825.64	-124.09	16.59	-15.90	0.42	0.07	-2.98
1,846.57	7.97	158.81	1,838.94	-125.83	17.26	-16.56	0.43	0.15	-2.90
1,860.00	7.99	158.44	1,852.24	-127.56	17.94	-17.23	0.41	0.15	-2.76
1,873.57	8.00	158.10	1,865.67	-129.32	18.64	-17.92	0.36	0.07	-2.51
1,887.14	8.01	157.79	1,879.11	-131.07	19.35	-18.62	0.33	0.07	-2.28
1,900.71	8.01	157.48	1,892.55	-132.82	20.07	-19.33	0.32	0.00	-2.28
1,914.29	8.02	157.17	1,906.00	-134.56	20.80	-20.05	0.33	0.07	-2.28
1,927.86	8.02	156.83	1,919.43	-136.31	21.54	-20.78	0.35	0.00	-2.51
1,941.43	8.03	156.46	1,932.87	-138.05	22.29	-21.52	0.39	0.07	-2.73
1,955.00	8.03	156.01	1,946.31	-139.78	23.05	-22.27	0.46	0.00	-3.32
1,968.43	8.03	155.46	1,959.61	-141.49	23.82	-23.03	0.57	0.00	-4.10
1,981.86	8.03	154.84	1,972.90	-143.19	24.61	-23.81	0.64	0.00	-4.62
1,995.29	8.03	154.22	1,986.20	-144.89	25.42	-24.61	0.64	0.00	-4.62
2,008.71	8.03	153.62	1,999.49	-146.57	26.24	-25.42	0.62	0.00	-4.47
2,022.14	8.04	153.08	2,012.79	-148.25	27.08	-26.26	0.57	0.07	-4.02
2,035.57	8.05	152.67	2,026.09	-149.92	27.94	-27.10	0.43	0.07	-3.05
2,049.00	8.08	150.88	2,039.38	-151.58	28.83	-27.99	1.88	0.22	-13.33
2,062.57	8.23	143.42	2,052.82	-153.19	29.88	-29.02	7.87	1.11	-54.97
2,076.14	8.02	146.85	2,066.25	-154.77	30.97	-30.11	3.89	-1.55	25.28
2,089.71	7.95	154.00	2,079.69	-156.40	31.90	-31.03	7.33	-0.52	52.69
2,103.29	8.00	155.12	2,093.14	-158.10	32.71	-31.83	1.20	0.37	8.25
2,116.86	8.07	156.41	2,106.58	-159.83	33.49	-32.60	1.43	0.52	9.51
2,130.43	8.15	157.66	2,120.01	-161.60	34.24	-33.33	1.43	0.59	9.21
2,144.00	8.22	158.65	2,133.44	-163.39	34.95	-34.04	1.16	0.52	7.30
2,157.43	8.28	159.16	2,146.73	-165.19	35.65	-34.72	0.70	0.45	3.80
2,170.86	8.34	159.35	2,160.02	-167.00	36.34	-35.40	0.49	0.45	1.41
2,184.29	8.39	159.35	2,173.31	-168.83	37.02	-36.08	0.37	0.37	0.00
2,197.71	8.44	159.21	2,186.58	-170.67	37.72	-36.77	0.40	0.37	-1.04
2,211.14	8.49	159.00	2,199.87	-172.51	38.42	-37.46	0.44	0.37	-1.56
2,224.57	8.54	158.75	2,213.15	-174.37	39.14	-38.17	0.46	0.37	-1.86
2,238.00	8.59	158.50	2,226.43	-176.23	39.87	-38.89	0.46	0.37	-1.86
2,251.57	8.63	158.24	2,239.85	-178.12	40.62	-39.62	0.41	0.29	-1.92
2,265.14	8.67	158.00	2,253.26	-180.01	41.38	-40.37	0.40	0.29	-1.77
2,278.71	8.71	157.77	2,266.68	-181.91	42.15	-41.13	0.39	0.29	-1.69
2,292.29	8.75	157.56	2,280.10	-183.82	42.93	-41.91	0.38	0.29	-1.55
2,305.86	8.80	157.35	2,293.51	-185.73	43.73	-42.69	0.44	0.37	-1.55
2,319.43	8.84	157.16	2,306.92	-187.65	44.53	-43.48	0.36	0.29	-1.40
2,333.00	8.89	156.99	2,320.33	-189.58	45.35	-44.29	0.42	0.37	-1.25
2,346.43	8.95	156.82	2,333.60	-191.49	46.16	-45.09	0.49	0.45	-1.27



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,359.86	9.01	156.68	2,346.86	-193.42	46.99	-45.91	0.48	0.45	-1.04
2,373.29	9.06	156.57	2,360.13	-195.35	47.83	-46.74	0.39	0.37	-0.82
2,386.71	9.12	156.50	2,373.38	-197.30	48.67	-47.57	0.45	0.45	-0.52
2,400.14	9.17	156.49	2,386.64	-199.26	49.52	-48.41	0.37	0.37	-0.07
2,413.57	9.21	156.55	2,399.89	-201.22	50.38	-49.25	0.31	0.30	0.45
2,427.00	9.24	156.74	2,413.15	-203.20	51.23	-50.10	0.32	0.22	1.41
2,440.57	9.25	157.10	2,426.54	-205.21	52.09	-50.94	0.43	0.07	2.65
2,454.14	9.25	157.57	2,439.94	-207.22	52.93	-51.77	0.56	0.00	3.46
2,467.71	9.23	158.10	2,453.33	-209.24	53.75	-52.58	0.64	-0.15	3.91
2,481.29	9.22	158.65	2,466.74	-211.26	54.55	-53.37	0.65	-0.07	4.05
2,494.86	9.21	159.18	2,480.13	-213.29	55.33	-54.14	0.63	-0.07	3.91
2,508.43	9.21	159.65	2,493.53	-215.32	56.10	-54.89	0.55	0.00	3.46
2,522.00	9.19	160.38	2,506.92	-217.36	56.84	-55.62	0.87	-0.15	5.38
2,535.43	9.00	166.37	2,520.18	-219.39	57.45	-56.22	7.19	-1.41	44.60
2,548.86	8.99	170.35	2,533.45	-221.45	57.87	-56.63	4.63	-0.07	29.64
2,562.29	9.04	170.19	2,546.71	-223.52	58.23	-56.98	0.42	0.37	-1.19
2,575.71	9.10	169.94	2,559.96	-225.60	58.59	-57.33	0.53	0.45	-1.86
2,589.14	9.17	169.65	2,573.22	-227.70	58.97	-57.70	0.62	0.52	-2.16
2,602.57	9.24	169.34	2,586.48	-229.82	59.36	-58.08	0.64	0.52	-2.31
2,616.00	9.30	169.04	2,599.73	-231.94	59.77	-58.47	0.57	0.45	-2.23
2,629.57	9.36	168.76	2,613.13	-234.10	60.19	-58.88	0.55	0.44	-2.06
2,643.14	9.42	168.51	2,626.51	-236.27	60.63	-59.31	0.53	0.44	-1.84
2,656.71	9.48	168.29	2,639.90	-238.45	61.07	-59.74	0.52	0.44	-1.62
2,670.29	9.53	168.10	2,653.29	-240.65	61.53	-60.19	0.43	0.37	-1.40
2,683.86	9.58	167.95	2,666.67	-242.85	62.00	-60.64	0.41	0.37	-1.11
2,697.43	9.63	167.85	2,680.05	-245.07	62.47	-61.10	0.39	0.37	-0.74
2,711.00	9.68	167.81	2,693.43	-247.29	62.95	-61.57	0.37	0.37	-0.29
2,724.43	9.72	167.88	2,706.67	-249.50	63.43	-62.04	0.31	0.30	0.52
2,737.86	9.77	167.99	2,719.91	-251.72	63.91	-62.50	0.40	0.37	0.82
2,751.29	9.81	168.13	2,733.14	-253.96	64.38	-62.96	0.35	0.30	1.04
2,764.71	9.85	168.25	2,746.36	-256.20	64.85	-63.42	0.33	0.30	0.89
2,778.14	9.88	168.35	2,759.60	-258.45	65.31	-63.87	0.26	0.22	0.74
2,791.57	9.91	168.37	2,772.83	-260.72	65.78	-64.32	0.22	0.22	0.15
2,805.00	9.93	168.28	2,786.05	-262.98	66.25	-64.78	0.19	0.15	-0.67
2,815.00	9.94	168.05	2,795.90	-264.67	66.60	-65.12	0.41	0.10	-2.30
2,825.00	9.94	167.79	2,805.75	-266.36	66.96	-65.47	0.45	0.00	-2.60
2,839.20	9.95	167.55	2,819.74	-268.75	67.49	-65.98	0.30	0.07	-1.69
2,853.40	9.96	167.38	2,833.73	-271.15	68.02	-66.50	0.22	0.07	-1.20
2,867.60	9.97	167.27	2,847.71	-273.55	68.56	-67.03	0.15	0.07	-0.77
2,881.80	9.99	167.20	2,861.70	-275.95	69.10	-67.56	0.16	0.14	-0.49
2,896.00	10.00	167.15	2,875.68	-278.35	69.65	-68.09	0.09	0.07	-0.35
2,910.20	10.01	167.12	2,889.67	-280.76	70.20	-68.63	0.08	0.07	-0.21
2,924.40	10.03	167.11	2,903.65	-283.16	70.75	-69.17	0.14	0.14	-0.07



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
2,938.60	10.04	167.12	2,917.63	-285.58	71.30	-69.71	0.07	0.07	0.07	
2,952.80	10.06	167.15	2,931.62	-287.99	71.85	-70.24	0.15	0.14	0.21	
2,967.00	10.07	167.21	2,945.60	-290.41	72.40	-70.78	0.10	0.07	0.42	
2,980.43	10.10	167.30	2,958.82	-292.71	72.92	-71.29	0.25	0.22	0.67	
2,993.86	10.12	167.41	2,972.04	-295.01	73.44	-71.79	0.21	0.15	0.82	
2,997.88	10.13	167.44	2,976.00	-295.70	73.59	-71.94	0.20	0.14	0.77	
DLWR Mnt. Group										
3,007.29	10.14	167.52	2,985.26	-297.31	73.95	-72.29	0.21	0.15	0.84	
3,020.71	10.15	167.63	2,998.47	-299.62	74.46	-72.79	0.16	0.07	0.82	
3,034.14	10.15	167.73	3,011.69	-301.93	74.96	-73.28	0.13	0.00	0.74	
3,047.57	10.12	167.81	3,024.91	-304.24	75.47	-73.77	0.25	-0.22	0.60	
3,061.00	10.05	167.84	3,038.13	-306.54	75.96	-74.25	0.52	-0.52	0.22	
3,074.43	9.93	167.79	3,051.36	-308.82	76.45	-74.73	0.90	-0.89	-0.37	
3,087.86	9.77	167.68	3,064.59	-311.06	76.94	-75.20	1.20	-1.19	-0.82	
3,101.29	9.59	167.54	3,077.83	-313.27	77.43	-75.67	1.35	-1.34	-1.04	
3,114.71	9.40	167.37	3,091.07	-315.43	77.91	-76.14	1.43	-1.42	-1.27	
3,128.14	9.22	167.18	3,104.32	-317.55	78.38	-76.61	1.36	-1.34	-1.41	
3,141.57	9.06	166.99	3,117.58	-319.63	78.86	-77.08	1.21	-1.19	-1.41	
3,155.00	8.68	166.60	3,130.85	-321.64	79.33	-77.54	2.86	-2.83	-2.90	
3,168.57	7.38	165.26	3,144.29	-323.48	79.79	-77.99	9.68	-9.58	-9.87	
3,182.14	6.88	164.43	3,157.75	-325.11	80.23	-78.42	3.76	-3.68	-6.12	
3,195.71	6.87	164.20	3,171.22	-326.67	80.67	-78.85	0.22	-0.07	-1.69	
3,209.29	6.87	163.97	3,184.71	-328.23	81.12	-79.28	0.20	0.00	-1.69	
3,222.86	6.89	163.75	3,198.18	-329.80	81.57	-79.73	0.24	0.15	-1.62	
3,236.43	6.92	163.54	3,211.65	-331.36	82.03	-80.18	0.29	0.22	-1.55	
3,250.00	6.95	163.36	3,225.12	-332.93	82.50	-80.64	0.27	0.22	-1.33	
3,263.43	6.98	163.26	3,238.45	-334.49	82.96	-81.09	0.24	0.22	-0.74	
3,276.86	7.01	163.18	3,251.78	-336.06	83.44	-81.56	0.23	0.22	-0.60	
3,290.29	7.04	163.11	3,265.11	-337.63	83.91	-82.03	0.23	0.22	-0.52	
3,303.71	7.07	163.02	3,278.43	-339.21	84.39	-82.50	0.24	0.22	-0.67	
3,317.14	7.08	162.90	3,291.76	-340.79	84.88	-82.97	0.13	0.07	-0.89	
3,330.57	7.08	162.72	3,305.08	-342.37	85.37	-83.45	0.17	0.00	-1.34	
3,344.00	7.06	162.46	3,318.41	-343.95	85.86	-83.94	0.28	-0.15	-1.94	
3,358.54	7.01	162.04	3,332.84	-345.64	86.40	-84.47	0.49	-0.34	-2.89	
3,373.08	6.93	161.52	3,347.28	-347.32	86.96	-85.01	0.70	-0.55	-3.58	
3,387.62	6.84	160.93	3,361.71	-348.97	87.52	-85.57	0.79	-0.62	-4.06	
3,402.15	6.74	160.29	3,376.14	-350.59	88.09	-86.13	0.86	-0.69	-4.40	
3,411.07	6.68	159.87	3,385.00	-351.57	88.44	-86.48	0.88	-0.69	-4.72	
Lower Brushy Canyon										
3,416.69	6.64	159.60	3,390.58	-352.18	88.67	-86.70	0.88	-0.69	-4.79	
3,431.23	6.54	158.90	3,405.02	-353.74	89.26	-87.28	0.88	-0.69	-4.81	
3,445.77	6.44	158.17	3,419.47	-355.27	89.86	-87.87	0.89	-0.69	-5.02	
3,460.31	6.34	157.45	3,433.92	-356.77	90.47	-88.48	0.88	-0.69	-4.95	
3,474.85	6.25	156.75	3,448.37	-358.24	91.09	-89.09	0.81	-0.62	-4.81	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
3,489.38	6.16	156.10	3,462.82	-359.68	91.72	-89.71	0.79	-0.62	-4.47	
3,503.92	6.09	155.54	3,477.27	-361.09	92.35	-90.34	0.63	-0.48	-3.85	
3,518.46	6.04	155.15	3,491.73	-362.49	93.00	-90.97	0.45	-0.34	-2.68	
3,533.00	6.01	155.02	3,506.19	-363.87	93.64	-91.60	0.23	-0.21	-0.89	
3,547.54	6.02	155.30	3,520.65	-365.26	94.28	-92.24	0.21	0.07	1.93	
3,562.08	6.07	155.80	3,535.11	-366.65	94.91	-92.86	0.50	0.34	3.44	
3,576.62	6.13	156.42	3,549.57	-368.06	95.54	-93.48	0.61	0.41	4.26	
3,591.15	6.20	157.09	3,564.02	-369.50	96.15	-94.09	0.69	0.48	4.61	
3,605.69	6.28	157.76	3,578.47	-370.96	96.76	-94.69	0.74	0.55	4.61	
3,620.23	6.36	158.39	3,592.92	-372.44	97.36	-95.28	0.73	0.55	4.33	
3,634.77	6.60	163.22	3,607.37	-373.99	97.90	-95.81	4.09	1.65	33.22	
3,649.31	7.31	172.51	3,621.80	-375.71	98.26	-96.16	9.13	4.88	63.89	
3,663.85	7.43	173.41	3,636.22	-377.56	98.49	-96.38	1.15	0.83	6.19	
3,678.38	7.49	173.90	3,650.63	-379.43	98.69	-96.57	0.60	0.41	3.37	
3,692.92	7.55	174.37	3,665.04	-381.32	98.89	-96.76	0.59	0.41	3.23	
3,707.46	7.60	174.78	3,679.46	-383.23	99.07	-96.93	0.51	0.34	2.82	
3,722.00	7.63	175.12	3,693.87	-385.15	99.24	-97.09	0.37	0.21	2.34	
3,735.43	7.62	175.32	3,707.18	-386.93	99.39	-97.23	0.21	-0.07	1.49	
3,748.86	7.59	175.41	3,720.49	-388.70	99.53	-97.36	0.24	-0.22	0.67	
3,762.29	7.55	175.43	3,733.80	-390.46	99.67	-97.49	0.30	-0.30	0.15	
3,775.71	7.50	175.37	3,747.11	-392.22	99.81	-97.62	0.38	-0.37	-0.45	
3,789.14	7.45	175.24	3,760.42	-393.96	99.96	-97.76	0.39	-0.37	-0.97	
3,802.57	7.40	175.03	3,773.74	-395.69	100.10	-97.89	0.42	-0.37	-1.56	
3,816.00	7.36	174.69	3,787.06	-397.40	100.26	-98.04	0.44	-0.30	-2.53	
3,829.57	7.31	174.20	3,800.52	-399.13	100.43	-98.20	0.59	-0.37	-3.61	
3,843.14	7.28	173.59	3,813.98	-400.84	100.61	-98.37	0.61	-0.22	-4.50	
3,850.22	7.26	173.23	3,821.00	-401.73	100.71	-98.47	0.71	-0.30	-5.07	
Bone Spring Lime										
3,856.71	7.24	172.90	3,827.44	-402.54	100.81	-98.56	0.71	-0.29	-5.10	
3,870.29	7.21	172.17	3,840.91	-404.24	101.03	-98.77	0.71	-0.22	-5.38	
3,883.86	7.18	171.40	3,854.38	-405.92	101.28	-99.01	0.74	-0.22	-5.67	
3,897.43	7.15	170.62	3,867.84	-407.59	101.54	-99.26	0.75	-0.22	-5.75	
3,911.00	7.12	169.86	3,881.31	-409.25	101.83	-99.54	0.73	-0.22	-5.60	
3,924.43	7.08	169.17	3,894.63	-410.88	102.13	-99.83	0.70	-0.30	-5.14	
3,937.86	7.03	168.51	3,907.96	-412.50	102.45	-100.14	0.71	-0.37	-4.91	
3,951.29	6.99	167.88	3,921.29	-414.11	102.78	-100.47	0.65	-0.30	-4.69	
3,964.71	6.95	167.29	3,934.61	-415.70	103.13	-100.81	0.61	-0.30	-4.40	
3,978.14	6.92	166.74	3,947.94	-417.28	103.50	-101.17	0.54	-0.22	-4.10	
3,991.57	6.89	166.27	3,961.28	-418.85	103.87	-101.53	0.48	-0.22	-3.50	
4,005.00	6.87	165.92	3,974.61	-420.41	104.26	-101.91	0.35	-0.15	-2.61	
4,018.57	6.86	165.74	3,988.08	-421.98	104.66	-102.30	0.17	-0.07	-1.33	
4,032.14	6.86	165.68	4,001.55	-423.55	105.06	-102.69	0.05	0.00	-0.44	
4,045.71	6.87	165.68	4,015.03	-425.12	105.46	-103.08	0.07	0.07	0.00	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,059.29	6.88	165.72	4,028.51	-426.70	105.86	-103.48	0.08	0.07	0.29	
4,072.86	6.89	165.76	4,041.98	-428.28	106.26	-103.87	0.08	0.07	0.29	
4,086.43	6.91	165.79	4,055.45	-429.86	106.66	-104.26	0.15	0.15	0.22	
4,100.00	6.93	165.78	4,068.92	-431.44	107.06	-104.65	0.15	0.15	-0.07	
4,113.57	6.96	165.69	4,082.39	-433.03	107.47	-105.05	0.24	0.22	-0.66	
4,127.14	6.99	165.55	4,095.86	-434.63	107.88	-105.45	0.25	0.22	-1.03	
4,140.71	7.01	165.38	4,109.33	-436.23	108.29	-105.85	0.21	0.15	-1.25	
4,154.29	7.03	165.18	4,122.81	-437.83	108.71	-106.27	0.23	0.15	-1.47	
4,167.86	7.05	164.96	4,136.28	-439.44	109.14	-106.69	0.25	0.15	-1.62	
4,181.43	7.05	164.70	4,149.75	-441.05	109.58	-107.11	0.24	0.00	-1.92	
4,195.00	7.04	164.41	4,163.21	-442.65	110.02	-107.55	0.27	-0.07	-2.14	
4,208.43	6.99	164.06	4,176.54	-444.23	110.47	-107.98	0.49	-0.37	-2.61	
4,221.86	6.93	163.68	4,189.87	-445.79	110.92	-108.43	0.56	-0.45	-2.83	
4,235.29	6.86	163.31	4,203.21	-447.34	111.38	-108.88	0.62	-0.52	-2.76	
4,248.71	6.80	162.98	4,216.53	-448.87	111.84	-109.33	0.53	-0.45	-2.46	
4,262.14	6.74	162.72	4,229.87	-450.38	112.31	-109.79	0.50	-0.45	-1.94	
4,275.57	6.70	162.58	4,243.21	-451.88	112.78	-110.25	0.32	-0.30	-1.04	
4,289.00	6.68	162.65	4,256.54	-453.37	113.24	-110.71	0.16	-0.15	0.52	
4,302.43	6.71	163.03	4,269.88	-454.87	113.70	-111.16	0.40	0.22	2.83	
4,315.86	6.77	163.59	4,283.22	-456.38	114.16	-111.61	0.66	0.45	4.17	
4,329.29	6.85	164.25	4,296.56	-457.91	114.60	-112.04	0.83	0.60	4.91	
4,342.71	6.93	164.94	4,309.88	-459.46	115.03	-112.46	0.86	0.60	5.14	
4,356.14	7.03	165.63	4,323.21	-461.04	115.44	-112.86	0.97	0.74	5.14	
4,369.57	7.11	166.28	4,336.54	-462.64	115.84	-113.26	0.84	0.60	4.84	
4,383.00	7.19	166.85	4,349.86	-464.27	116.23	-113.63	0.80	0.60	4.24	
4,396.57	7.74	170.59	4,363.32	-466.00	116.57	-113.97	5.41	4.05	27.56	
4,410.14	8.92	174.64	4,376.74	-467.95	116.82	-114.20	9.71	8.70	29.85	
4,423.71	8.96	175.01	4,390.15	-470.05	117.01	-114.38	0.52	0.29	2.73	
4,437.29	8.99	175.37	4,403.56	-472.16	117.19	-114.55	0.47	0.22	2.65	
4,450.86	9.02	175.71	4,416.97	-474.28	117.35	-114.70	0.45	0.22	2.51	
4,464.43	9.03	176.00	4,430.37	-476.40	117.51	-114.84	0.34	0.07	2.14	
4,478.00	9.02	176.21	4,443.77	-478.52	117.65	-114.98	0.25	-0.07	1.55	
4,491.43	8.98	176.27	4,457.03	-480.62	117.79	-115.10	0.31	-0.30	0.45	
4,504.86	8.91	176.25	4,470.30	-482.70	117.93	-115.23	0.52	-0.52	-0.15	
4,518.29	8.83	176.16	4,483.57	-484.77	118.06	-115.35	0.60	-0.60	-0.67	
4,531.71	8.75	176.02	4,496.83	-486.82	118.20	-115.48	0.62	-0.60	-1.04	
4,545.14	8.65	175.85	4,510.11	-488.84	118.35	-115.61	0.77	-0.74	-1.27	
4,558.57	8.56	175.65	4,523.39	-490.85	118.50	-115.75	0.71	-0.67	-1.49	
4,572.00	8.46	175.42	4,536.67	-492.83	118.65	-115.90	0.79	-0.74	-1.71	
4,585.57	8.37	175.17	4,550.09	-494.81	118.81	-116.05	0.72	-0.66	-1.84	
4,599.14	8.28	174.90	4,563.52	-496.76	118.98	-116.21	0.72	-0.66	-1.99	
4,612.71	8.19	174.62	4,576.95	-498.70	119.16	-116.37	0.73	-0.66	-2.06	
4,626.29	8.11	174.33	4,590.39	-500.62	119.35	-116.55	0.66	-0.59	-2.14	
4,639.86	8.03	174.05	4,603.83	-502.51	119.54	-116.73	0.66	-0.59	-2.06	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,653.43	7.96	173.79	4,617.27	-504.39	119.74	-116.92	0.58	-0.52	-1.92
4,667.00	7.89	173.59	4,630.71	-506.25	119.94	-117.11	0.55	-0.52	-1.47
4,680.43	7.83	173.50	4,644.01	-508.07	120.15	-117.31	0.46	-0.45	-0.67
4,693.86	7.78	173.46	4,657.32	-509.88	120.36	-117.51	0.37	-0.37	-0.30
4,707.29	7.74	173.44	4,670.62	-511.69	120.56	-117.70	0.30	-0.30	-0.15
4,720.71	7.70	173.43	4,683.92	-513.48	120.77	-117.90	0.30	-0.30	-0.07
4,734.14	7.67	173.41	4,697.23	-515.26	120.98	-118.10	0.22	-0.22	-0.15
4,747.57	7.64	173.35	4,710.54	-517.04	121.18	-118.29	0.23	-0.22	-0.45
4,761.00	7.61	173.25	4,723.85	-518.81	121.39	-118.49	0.24	-0.22	-0.74
4,774.57	7.59	173.05	4,737.30	-520.59	121.60	-118.69	0.24	-0.15	-1.47
4,788.14	7.58	172.80	4,750.76	-522.37	121.82	-118.91	0.25	-0.07	-1.84
4,801.71	7.56	172.52	4,764.21	-524.14	122.05	-119.12	0.31	-0.15	-2.06
4,815.29	7.54	172.21	4,777.67	-525.91	122.29	-119.35	0.33	-0.15	-2.28
4,828.86	7.52	171.91	4,791.12	-527.67	122.54	-119.59	0.33	-0.15	-2.21
4,842.43	7.49	171.61	4,804.58	-529.42	122.79	-119.83	0.36	-0.22	-2.21
4,856.00	7.44	171.34	4,818.03	-531.17	123.05	-120.08	0.45	-0.37	-1.99
4,869.43	7.36	171.16	4,831.35	-532.88	123.31	-120.34	0.62	-0.60	-1.34
4,882.86	7.27	171.01	4,844.67	-534.57	123.58	-120.59	0.69	-0.67	-1.12
4,896.29	7.18	170.89	4,857.99	-536.23	123.85	-120.85	0.68	-0.67	-0.89
4,909.71	7.09	170.78	4,871.31	-537.88	124.11	-121.10	0.68	-0.67	-0.82
4,923.14	7.03	170.66	4,884.64	-539.51	124.38	-121.36	0.46	-0.45	-0.89
4,936.57	7.00	170.54	4,897.97	-541.13	124.64	-121.62	0.25	-0.22	-0.89
4,950.00	7.03	170.41	4,911.30	-542.74	124.92	-121.88	0.25	0.22	-0.97
4,963.57	7.15	170.27	4,924.76	-544.40	125.20	-122.15	0.89	0.88	-1.03
4,977.14	7.33	170.12	4,938.22	-546.08	125.49	-122.44	1.33	1.33	-1.11
4,990.71	7.53	169.98	4,951.68	-547.81	125.79	-122.73	1.48	1.47	-1.03
5,004.29	7.74	169.83	4,965.14	-549.59	126.11	-123.04	1.55	1.55	-1.10
5,017.86	7.96	169.70	4,978.58	-551.41	126.44	-123.36	1.63	1.62	-0.96
5,031.43	8.14	169.57	4,992.02	-553.28	126.78	-123.69	1.33	1.33	-0.96
5,045.00	8.83	168.87	5,005.44	-555.25	127.15	-124.05	5.14	5.08	-5.16
5,058.43	10.21	168.18	5,018.69	-557.42	127.60	-124.48	10.31	10.28	-5.14
5,071.86	10.84	168.71	5,031.89	-559.83	128.09	-124.96	4.75	4.69	3.95
5,085.29	10.87	168.69	5,045.08	-562.31	128.58	-125.44	0.23	0.22	-0.15
5,098.71	10.89	168.68	5,058.26	-564.79	129.08	-125.92	0.15	0.15	-0.07
5,112.14	10.89	168.65	5,071.45	-567.28	129.58	-126.41	0.04	0.00	-0.22
5,125.57	10.88	168.59	5,084.63	-569.76	130.08	-126.90	0.11	-0.07	-0.45
5,139.00	10.87	168.47	5,097.82	-572.25	130.58	-127.39	0.18	-0.07	-0.89
5,152.57	10.86	168.25	5,111.15	-574.75	131.10	-127.89	0.31	-0.07	-1.62
5,166.14	10.84	167.96	5,124.48	-577.25	131.63	-128.40	0.43	-0.15	-2.14
5,179.71	10.81	167.63	5,137.81	-579.74	132.17	-128.93	0.51	-0.22	-2.43
5,193.29	10.78	167.28	5,151.15	-582.23	132.72	-129.46	0.53	-0.22	-2.58
5,206.86	10.74	166.91	5,164.48	-584.69	133.28	-130.02	0.59	-0.29	-2.73
5,220.43	10.70	166.53	5,177.81	-587.15	133.86	-130.58	0.60	-0.29	-2.80



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,234.00	10.64	166.14	5,191.15	-589.59	134.46	-131.16	0.69	-0.44	-2.87
5,247.43	10.56	165.78	5,204.35	-591.99	135.06	-131.75	0.77	-0.60	-2.68
5,260.86	10.47	165.42	5,217.55	-594.36	135.67	-132.34	0.83	-0.67	-2.68
5,274.29	10.38	165.06	5,230.76	-596.71	136.28	-132.95	0.83	-0.67	-2.68
5,287.71	10.27	164.70	5,243.96	-599.04	136.91	-133.56	0.95	-0.82	-2.68
5,301.14	10.17	164.32	5,257.18	-601.33	137.55	-134.19	0.90	-0.74	-2.83
5,314.57	10.05	163.94	5,270.40	-603.60	138.19	-134.82	1.02	-0.89	-2.83
5,328.00	9.94	163.54	5,283.63	-605.84	138.85	-135.46	0.97	-0.82	-2.98
5,341.57	9.81	163.14	5,297.00	-608.07	139.51	-136.11	1.08	-0.96	-2.95
5,355.14	9.68	162.72	5,310.37	-610.26	140.19	-136.78	1.09	-0.96	-3.10
5,368.71	9.55	162.28	5,323.75	-612.42	140.87	-137.45	1.10	-0.96	-3.24
5,382.29	9.42	161.82	5,337.14	-614.55	141.56	-138.12	1.11	-0.96	-3.39
5,395.86	9.29	161.32	5,350.53	-616.65	142.26	-138.81	1.13	-0.96	-3.68
5,409.43	9.16	160.77	5,363.93	-618.70	142.96	-139.50	1.16	-0.96	-4.05
5,423.00	9.02	160.17	5,377.33	-620.72	143.68	-140.21	1.25	-1.03	-4.42
5,436.43	8.87	159.52	5,390.59	-622.68	144.40	-140.92	1.35	-1.12	-4.84
5,449.86	8.73	158.84	5,403.87	-624.60	145.13	-141.64	1.30	-1.04	-5.06
5,463.29	8.59	158.15	5,417.14	-626.49	145.87	-142.37	1.30	-1.04	-5.14
5,476.71	8.46	157.50	5,430.41	-628.33	146.62	-143.11	1.21	-0.97	-4.84
5,490.14	8.34	156.97	5,443.70	-630.14	147.38	-143.86	1.06	-0.89	-3.95
5,503.57	8.25	156.63	5,456.99	-631.92	148.14	-144.61	0.76	-0.67	-2.53
5,517.00	8.18	156.62	5,470.28	-633.68	148.90	-145.36	0.52	-0.52	-0.07
5,530.43	8.17	157.14	5,483.58	-635.44	149.65	-146.10	0.56	-0.07	3.87
5,543.86	8.19	157.95	5,496.87	-637.20	150.38	-146.82	0.87	0.15	6.03
5,557.29	8.23	158.93	5,510.16	-638.99	151.09	-147.52	1.08	0.30	7.30
5,570.71	8.27	159.95	5,523.44	-640.79	151.76	-148.18	1.13	0.30	7.60
5,584.14	8.32	160.93	5,536.73	-642.61	152.41	-148.82	1.12	0.37	7.30
5,597.57	8.35	161.79	5,550.02	-644.46	153.03	-149.43	0.95	0.22	6.40
5,611.00	8.85	164.27	5,563.30	-646.38	153.62	-150.01	4.63	3.72	18.47
5,624.57	9.85	168.29	5,576.69	-648.52	154.14	-150.51	8.80	7.37	29.62
5,638.14	10.05	169.45	5,590.05	-650.82	154.59	-150.95	2.09	1.47	8.55
5,651.71	9.94	169.51	5,603.42	-653.14	155.02	-151.37	0.81	-0.81	0.44
5,665.29	9.82	169.50	5,616.80	-655.43	155.45	-151.78	0.88	-0.88	-0.07
5,678.86	9.70	169.45	5,630.17	-657.69	155.87	-152.19	0.89	-0.88	-0.37
5,692.43	9.58	169.36	5,643.55	-659.92	156.28	-152.60	0.89	-0.88	-0.66
5,706.00	9.48	169.27	5,656.93	-662.13	156.70	-153.00	0.75	-0.74	-0.66
5,719.43	9.40	169.20	5,670.18	-664.29	157.11	-153.40	0.60	-0.60	-0.52
5,732.86	9.33	169.12	5,683.43	-666.44	157.52	-153.80	0.53	-0.52	-0.60
5,746.29	9.27	169.03	5,696.68	-668.57	157.93	-154.20	0.46	-0.45	-0.67
5,759.71	9.20	168.91	5,709.93	-670.69	158.35	-154.60	0.54	-0.52	-0.89
5,773.14	9.13	168.75	5,723.19	-672.78	158.76	-155.00	0.55	-0.52	-1.19
5,786.57	9.04	168.53	5,736.45	-674.86	159.18	-155.41	0.72	-0.67	-1.64
5,800.00	8.92	168.21	5,749.72	-676.92	159.60	-155.82	0.97	-0.89	-2.38



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,811.42	8.77	167.85	5,761.00	-678.63	159.96	-156.17	1.41	-1.33	-3.16	
1st Bone Spring SD										
5,813.57	8.74	167.78	5,763.12	-678.95	160.03	-156.24	1.41	-1.32	-3.22	
5,827.14	8.54	167.25	5,776.54	-680.94	160.47	-156.67	1.59	-1.47	-3.91	
5,840.71	8.34	166.67	5,789.96	-682.89	160.92	-157.11	1.60	-1.47	-4.27	
5,854.29	8.14	166.07	5,803.40	-684.78	161.38	-157.55	1.60	-1.47	-4.42	
5,867.86	7.96	165.52	5,816.84	-686.62	161.85	-158.01	1.44	-1.33	-4.05	
5,872.06	7.92	165.39	5,821.00	-687.18	161.99	-158.15	1.12	-1.03	-3.13	
2nd Bone Spring LM										
5,881.43	7.82	165.09	5,830.28	-688.42	162.32	-158.47	1.12	-1.03	-3.19	
5,895.00	7.76	164.88	5,843.73	-690.20	162.80	-158.94	0.49	-0.44	-1.55	
5,908.43	7.80	165.05	5,857.03	-691.95	163.27	-159.40	0.34	0.30	1.27	
5,921.86	7.92	165.41	5,870.34	-693.73	163.74	-159.86	0.97	0.89	2.68	
5,935.29	8.07	165.87	5,883.64	-695.54	164.20	-160.31	1.21	1.12	3.43	
5,948.71	8.24	166.37	5,896.92	-697.39	164.66	-160.76	1.37	1.27	3.73	
5,962.14	8.40	166.88	5,910.21	-699.28	165.11	-161.20	1.31	1.19	3.80	
5,975.57	8.53	167.38	5,923.49	-701.20	165.55	-161.63	1.11	0.97	3.72	
5,989.00	8.88	167.44	5,936.77	-703.19	165.99	-162.06	2.61	2.61	0.45	
6,002.57	10.26	165.96	5,950.15	-705.38	166.51	-162.57	10.33	10.17	-10.91	
6,016.14	10.88	168.60	5,963.49	-707.81	167.06	-163.10	5.80	4.57	19.45	
6,029.71	10.72	169.05	5,976.82	-710.31	167.55	-163.58	1.33	-1.18	3.32	
6,043.29	10.52	169.52	5,990.17	-712.76	168.01	-164.03	1.60	-1.47	3.46	
6,056.86	10.30	169.98	6,003.51	-715.18	168.45	-164.45	1.73	-1.62	3.39	
6,070.43	10.05	170.40	6,016.87	-717.54	168.86	-164.85	1.92	-1.84	3.10	
6,084.00	9.80	170.73	6,030.24	-719.85	169.24	-165.22	1.89	-1.84	2.43	
6,097.43	9.55	170.81	6,043.47	-722.07	169.61	-165.57	1.86	-1.86	0.60	
6,110.86	9.29	170.75	6,056.72	-724.24	169.96	-165.91	1.94	-1.94	-0.45	
6,124.29	9.04	170.59	6,069.98	-726.36	170.30	-166.24	1.87	-1.86	-1.19	
6,137.71	8.78	170.34	6,083.24	-728.40	170.65	-166.58	1.96	-1.94	-1.86	
6,151.14	8.53	170.01	6,096.52	-730.40	170.99	-166.91	1.90	-1.86	-2.46	
6,164.57	8.27	169.62	6,109.80	-732.33	171.34	-167.25	1.98	-1.94	-2.90	
6,178.00	8.02	169.17	6,123.10	-734.20	171.69	-167.59	1.92	-1.86	-3.35	
6,191.57	7.77	168.75	6,136.54	-736.03	172.05	-167.93	1.89	-1.84	-3.10	
6,205.14	7.52	168.28	6,149.99	-737.80	172.41	-168.28	1.90	-1.84	-3.46	
6,218.71	7.28	167.75	6,163.45	-739.51	172.77	-168.64	1.84	-1.77	-3.91	
6,232.29	7.05	167.17	6,176.92	-741.16	173.14	-168.99	1.78	-1.69	-4.27	
6,245.86	6.82	166.54	6,190.39	-742.75	173.51	-169.36	1.79	-1.69	-4.64	
6,259.43	6.60	165.87	6,203.87	-744.29	173.89	-169.73	1.72	-1.62	-4.94	
6,273.00	6.39	165.17	6,217.35	-745.78	174.27	-170.10	1.65	-1.55	-5.16	
6,286.43	6.20	164.60	6,230.70	-747.20	174.65	-170.48	1.49	-1.41	-4.24	
6,299.86	6.02	164.03	6,244.05	-748.58	175.04	-170.86	1.41	-1.34	-4.24	
6,313.29	5.85	163.48	6,257.41	-749.91	175.43	-171.24	1.33	-1.27	-4.10	
6,326.71	5.70	162.95	6,270.76	-751.20	175.82	-171.62	1.19	-1.12	-3.95	
6,340.14	5.57	162.50	6,284.13	-752.46	176.21	-172.01	1.02	-0.97	-3.35	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,353.57	5.47	162.17	6,297.50	-753.69	176.60	-172.39	0.78	-0.74	-2.46
6,367.00	5.41	162.07	6,310.86	-754.91	176.99	-172.77	0.45	-0.45	-0.74
6,380.57	5.41	162.36	6,324.37	-756.12	177.38	-173.16	0.20	0.00	2.14
6,394.14	6.07	161.31	6,337.88	-757.41	177.81	-173.58	4.92	4.86	-7.74
6,407.71	7.39	161.68	6,351.35	-758.92	178.31	-174.07	9.73	9.73	2.73
6,421.29	8.61	166.24	6,364.80	-760.74	178.83	-174.58	10.12	8.98	33.58
6,434.86	8.69	166.85	6,378.22	-762.72	179.30	-175.04	0.90	0.59	4.50
6,448.43	8.79	167.49	6,391.63	-764.73	179.76	-175.49	1.03	0.74	4.72
6,462.00	8.87	168.04	6,405.04	-766.77	180.20	-175.92	0.86	0.59	4.05
6,475.82	8.89	168.44	6,418.69	-768.86	180.64	-176.34	0.47	0.14	2.89
6,489.64	8.87	168.72	6,432.35	-770.95	181.06	-176.75	0.34	-0.14	2.03
6,503.45	8.83	168.92	6,445.99	-773.03	181.47	-177.15	0.37	-0.29	1.45
6,517.27	8.77	169.08	6,459.65	-775.11	181.88	-177.54	0.47	-0.43	1.16
6,531.09	8.70	169.22	6,473.31	-777.17	182.27	-177.93	0.53	-0.51	1.01
6,544.91	8.62	169.34	6,486.97	-779.22	182.66	-178.30	0.59	-0.58	0.87
6,558.73	8.53	169.47	6,500.64	-781.24	183.04	-178.67	0.67	-0.65	0.94
6,572.55	8.44	169.61	6,514.31	-783.25	183.41	-179.03	0.67	-0.65	1.01
6,586.36	8.34	169.77	6,527.97	-785.23	183.77	-179.38	0.74	-0.72	1.16
6,600.18	8.24	169.97	6,541.64	-787.19	184.12	-179.72	0.75	-0.72	1.45
6,614.00	8.13	170.24	6,555.32	-789.13	184.46	-180.05	0.84	-0.80	1.95
6,626.80	8.03	170.58	6,568.00	-790.90	184.76	-180.34	0.87	-0.78	2.66
6,639.60	7.90	171.04	6,580.67	-792.65	185.04	-180.61	1.13	-1.02	3.59
6,652.40	7.72	171.69	6,593.35	-794.37	185.30	-180.86	1.57	-1.41	5.08
6,665.20	7.43	172.64	6,606.04	-796.04	185.53	-181.08	2.47	-2.27	7.42
6,678.00	6.98	174.14	6,618.74	-797.64	185.72	-181.26	3.81	-3.52	11.72
6,691.43	6.25	176.87	6,632.08	-799.18	185.84	-181.37	5.92	-5.44	20.33
6,704.86	5.97	189.70	6,645.44	-800.60	185.76	-181.29	10.36	-2.08	95.53
6,718.29	6.62	206.83	6,658.79	-801.98	185.29	-180.81	14.73	4.84	127.55
6,731.71	7.73	219.36	6,672.10	-803.37	184.37	-179.88	14.25	8.27	93.37
6,737.00	8.31	223.68	6,677.34	-803.92	183.88	-179.39	15.81	10.98	81.60
KOP: 6737.00' MD, -179.39' VS, 6677.34' TVD									
6,745.14	9.28	229.22	6,685.38	-804.77	182.98	-178.48	15.81	11.91	68.10
6,758.57	11.22	234.05	6,698.60	-806.25	181.10	-176.60	15.79	14.45	35.96
6,772.00	13.17	238.38	6,711.73	-807.82	178.74	-174.23	16.03	14.52	32.24
6,785.57	14.82	243.14	6,724.89	-809.41	175.88	-171.35	14.82	12.16	35.08
6,799.14	16.57	247.28	6,737.96	-810.94	172.54	-168.01	15.30	12.90	30.51
6,812.71	18.58	249.15	6,750.89	-812.46	168.74	-164.20	15.38	14.81	13.78
6,826.29	20.33	250.84	6,763.70	-814.00	164.49	-159.94	13.54	12.89	12.44
6,839.86	21.60	253.84	6,776.37	-815.47	159.86	-155.30	12.25	9.36	22.11
6,853.43	22.97	256.63	6,788.92	-816.78	154.88	-150.32	12.75	10.10	20.56
6,867.00	24.37	259.12	6,801.35	-817.92	149.56	-144.99	12.67	10.32	18.35
6,872.00	25.08	258.70	6,805.89	-818.32	147.51	-142.93	14.71	14.28	-8.48
100FEL: 6872.00' MD, -142.93' VS, 6805.89' TVD									
6,880.43	26.29	258.03	6,813.49	-819.06	143.93	-139.35	14.71	14.31	-7.90



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
6,893.86	27.81	260.08	6,825.45	-820.22	137.93	-133.35	13.28	11.32	15.26	
6,907.29	29.47	261.33	6,837.24	-821.26	131.58	-126.99	13.14	12.36	9.31	
6,920.71	31.31	262.32	6,848.81	-822.22	124.86	-120.27	14.21	13.71	7.38	
6,934.14	32.41	263.78	6,860.22	-823.08	117.82	-113.22	10.00	8.19	10.87	
6,947.57	32.95	264.48	6,871.53	-823.82	110.61	-106.01	4.91	4.02	5.21	
6,961.00	34.43	262.36	6,882.70	-824.67	103.21	-98.60	14.07	11.02	-15.79	
6,974.57	36.32	261.84	6,893.76	-825.75	95.43	-90.82	14.10	13.93	-3.83	
6,988.14	38.41	263.15	6,904.55	-826.83	87.27	-82.65	16.48	15.40	9.65	
7,001.71	40.60	263.16	6,915.02	-827.86	78.70	-74.07	16.14	16.14	0.07	
7,015.29	42.55	263.73	6,925.18	-828.88	69.74	-65.11	14.63	14.36	4.20	
7,028.86	44.45	264.63	6,935.02	-829.83	60.45	-55.82	14.73	14.00	6.63	
7,042.43	46.06	265.56	6,944.57	-830.65	50.85	-46.21	12.82	11.86	6.85	
7,044.49	46.37	265.54	6,946.00	-830.77	49.36	-44.72	15.19	15.18	-0.76	
2nd Bone Spring SD										
7,056.00	48.12	265.46	6,953.81	-831.43	40.94	-36.30	15.19	15.18	-0.73	
7,069.43	50.09	266.43	6,962.60	-832.15	30.81	-26.17	15.65	14.67	7.22	
7,082.86	51.39	267.04	6,971.10	-832.74	20.43	-15.78	10.30	9.68	4.54	
7,096.29	51.23	267.13	6,979.50	-833.27	9.96	-5.31	1.30	-1.19	0.67	
7,109.71	51.09	267.21	6,987.91	-833.79	-0.48	5.13	1.14	-1.04	0.60	
7,123.14	51.64	266.59	6,996.30	-834.36	-10.95	15.61	5.46	4.10	-4.62	
7,130.37	52.45	265.74	7,000.74	-834.74	-16.64	21.30	14.53	11.21	-11.72	
L08-01-FTP (Dak32-124H)										
7,136.57	53.15	265.03	7,004.49	-835.13	-21.56	26.23	14.53	11.28	-11.49	
7,150.00	53.67	264.57	7,012.50	-836.11	-32.30	36.97	4.75	3.87	-3.43	
7,163.57	53.85	264.58	7,020.52	-837.15	-43.20	47.87	1.33	1.33	0.07	
7,177.14	54.09	264.57	7,028.50	-838.18	-54.12	58.80	1.77	1.77	-0.07	
7,190.71	54.37	264.55	7,036.44	-839.23	-65.08	69.77	2.07	2.06	-0.15	
7,204.29	54.64	264.53	7,044.32	-840.28	-76.09	80.78	1.99	1.99	-0.15	
7,217.86	55.43	263.65	7,052.10	-841.43	-87.15	91.85	7.88	5.82	-6.48	
7,231.43	56.88	262.00	7,059.66	-842.83	-98.33	103.04	14.70	10.69	-12.16	
7,245.00	58.64	260.58	7,066.89	-844.57	-109.67	114.39	15.70	12.97	-10.46	
7,258.43	59.20	260.23	7,073.83	-846.49	-121.02	125.74	4.73	4.17	-2.61	
7,271.86	59.40	260.15	7,080.68	-848.46	-132.39	137.13	1.57	1.49	-0.60	
7,285.29	59.59	260.06	7,087.50	-850.45	-143.79	148.54	1.53	1.41	-0.67	
7,298.71	59.75	259.99	7,094.28	-852.45	-155.20	159.96	1.27	1.19	-0.52	
7,312.14	60.89	259.59	7,100.93	-854.52	-166.68	171.45	8.87	8.49	-2.98	
7,325.57	62.82	259.08	7,107.26	-856.71	-178.32	183.10	14.76	14.37	-3.80	
7,339.00	62.79	259.08	7,113.40	-858.98	-190.05	194.85	0.22	-0.22	0.00	
7,352.57	62.63	259.10	7,119.62	-861.26	-201.89	206.70	1.19	-1.18	0.15	
7,366.14	62.39	259.15	7,125.89	-863.53	-213.71	218.53	1.80	-1.77	0.37	
7,379.71	62.12	259.22	7,132.20	-865.78	-225.51	230.34	2.04	-1.99	0.52	
7,393.29	61.86	259.32	7,138.58	-868.02	-237.29	242.13	2.02	-1.91	0.74	
7,406.86	62.29	260.30	7,144.94	-870.14	-249.09	253.95	7.12	3.17	7.22	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,420.43	62.78	261.88	7,151.19	-872.00	-260.99	265.85	10.94	3.61	11.64
7,434.00	62.63	262.09	7,157.42	-873.68	-272.93	277.80	1.76	-1.11	1.55
7,447.43	62.57	262.38	7,163.60	-875.29	-284.74	289.62	1.97	-0.45	2.16
7,460.86	62.56	262.69	7,169.79	-876.84	-296.56	301.45	2.05	-0.07	2.31
7,474.29	62.58	263.02	7,175.97	-878.32	-308.39	313.29	2.19	0.15	2.46
7,487.71	62.61	263.34	7,182.15	-879.74	-320.22	325.12	2.13	0.22	2.38
7,501.14	63.41	264.10	7,188.24	-881.05	-332.11	337.03	7.80	5.96	5.66
7,514.57	64.60	265.37	7,194.13	-882.16	-344.13	349.05	12.28	8.86	9.46
7,528.00	65.64	266.77	7,199.78	-882.99	-356.29	361.21	12.22	7.74	10.42
7,541.57	66.99	267.83	7,205.23	-883.57	-368.70	373.63	12.25	9.95	7.81
7,555.14	67.33	268.97	7,210.50	-883.92	-381.20	386.13	8.14	2.51	8.40
7,568.71	68.94	268.69	7,215.55	-884.18	-393.79	398.72	12.02	11.86	-2.06
7,582.29	70.74	268.49	7,220.23	-884.49	-406.53	411.47	13.33	13.25	-1.47
7,595.86	72.47	268.06	7,224.52	-884.88	-419.40	424.34	13.10	12.75	-3.17
7,609.43	74.35	267.92	7,228.39	-885.34	-432.40	437.34	13.89	13.85	-1.03
7,623.00	76.42	267.97	7,231.81	-885.81	-445.52	450.46	15.26	15.25	0.37
7,636.43	78.48	267.96	7,234.73	-886.27	-458.62	463.57	15.34	15.34	-0.07
7,649.86	80.57	268.56	7,237.17	-886.68	-471.82	476.77	16.17	15.56	4.47
7,663.29	82.11	269.07	7,239.20	-886.95	-485.10	490.04	12.07	11.47	3.80
7,676.71	82.21	269.75	7,241.03	-887.09	-498.39	503.34	5.07	0.75	5.07
7,690.14	83.05	269.81	7,242.75	-887.14	-511.71	516.65	6.27	6.25	0.45
7,703.57	84.75	269.50	7,244.18	-887.22	-525.06	530.01	12.86	12.66	-2.31
7,717.00	86.32	270.71	7,245.22	-887.19	-538.45	543.40	14.74	11.69	9.01
7,730.57	88.27	271.14	7,245.86	-886.97	-552.00	556.95	14.71	14.37	3.17
7,733.00	88.36	271.18	7,245.93	-886.93	-554.43	559.38	3.86	3.54	1.55
EOC: 7733.00' MD, 559.38' VS, 7245.93' TVD									
7,744.14	88.75	271.35	7,246.21	-886.68	-565.56	570.51	3.86	3.54	1.55
7,757.71	88.77	271.53	7,246.51	-886.34	-579.13	584.07	1.33	0.15	1.33
7,771.29	88.77	271.68	7,246.80	-885.96	-592.70	597.64	1.10	0.00	1.10
7,784.86	88.77	271.80	7,247.09	-885.55	-606.26	611.20	0.88	0.00	0.88
7,798.43	88.75	271.88	7,247.38	-885.11	-619.82	624.75	0.61	-0.15	0.59
7,812.00	88.72	271.90	7,247.68	-884.66	-633.38	638.31	0.27	-0.22	0.15
7,825.43	88.65	271.85	7,247.99	-884.22	-646.80	651.73	0.64	-0.52	-0.37
7,838.86	88.57	271.75	7,248.32	-883.80	-660.22	665.14	0.95	-0.60	-0.74
7,852.29	88.49	271.63	7,248.66	-883.41	-673.64	678.56	1.07	-0.60	-0.89
7,865.71	88.44	271.50	7,249.02	-883.04	-687.05	691.97	1.04	-0.37	-0.97
7,879.14	88.42	271.38	7,249.39	-882.70	-700.47	705.39	0.91	-0.15	-0.89
7,892.57	88.52	271.05	7,249.75	-882.42	-713.89	718.81	2.57	0.74	-2.46
7,906.00	88.81	270.01	7,250.06	-882.29	-727.32	732.23	8.04	2.16	-7.74
7,919.57	89.07	270.00	7,250.31	-882.29	-740.88	745.80	1.92	1.92	-0.07
7,933.14	89.40	270.01	7,250.49	-882.29	-754.45	759.37	2.43	2.43	0.07
7,946.71	89.77	270.04	7,250.59	-882.29	-768.02	772.94	2.74	2.73	0.22
7,960.29	90.15	270.07	7,250.60	-882.27	-781.60	786.52	2.81	2.80	0.22
7,973.86	90.53	270.10	7,250.52	-882.25	-795.17	800.09	2.81	2.80	0.22



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,987.43	90.97	270.06	7,250.34	-882.23	-808.74	813.65	3.26	3.24	-0.29
8,001.00	91.75	269.70	7,250.02	-882.26	-822.31	827.22	6.33	5.75	-2.65
8,014.43	91.97	269.69	7,249.59	-882.33	-835.73	840.64	1.64	1.64	-0.07
8,027.86	92.15	269.68	7,249.10	-882.41	-849.15	854.06	1.34	1.34	-0.07
8,041.29	92.30	269.65	7,248.58	-882.49	-862.57	867.48	1.14	1.12	-0.22
8,054.71	92.43	269.62	7,248.03	-882.57	-875.98	880.89	0.99	0.97	-0.22
8,068.14	92.54	269.58	7,247.45	-882.67	-889.39	894.31	0.87	0.82	-0.30
8,081.57	92.63	269.53	7,246.84	-882.77	-902.81	907.73	0.77	0.67	-0.37
8,095.00	92.70	269.47	7,246.22	-882.89	-916.23	921.14	0.69	0.52	-0.45
8,108.57	92.75	269.39	7,245.57	-883.02	-929.78	934.70	0.69	0.37	-0.59
8,122.14	92.78	269.31	7,244.92	-883.18	-943.33	948.25	0.63	0.22	-0.59
8,135.71	92.80	269.22	7,244.26	-883.35	-956.89	961.80	0.68	0.15	-0.66
8,149.29	92.82	269.13	7,243.59	-883.54	-970.45	975.37	0.68	0.15	-0.66
8,162.86	92.84	269.05	7,242.92	-883.76	-984.00	988.92	0.61	0.15	-0.59
8,176.43	92.87	269.00	7,242.24	-883.99	-997.55	1,002.47	0.43	0.22	-0.37
8,190.00	92.91	268.97	7,241.56	-884.23	-1,011.10	1,016.02	0.37	0.29	-0.22
8,203.57	92.97	268.99	7,240.86	-884.47	-1,024.65	1,029.58	0.47	0.44	0.15
8,217.14	93.05	269.03	7,240.15	-884.71	-1,038.20	1,043.13	0.66	0.59	0.29
8,230.71	93.14	269.09	7,239.42	-884.93	-1,051.75	1,056.68	0.80	0.66	0.44
8,244.29	93.21	269.13	7,238.67	-885.14	-1,065.31	1,070.23	0.59	0.52	0.29
8,257.86	93.28	269.16	7,237.90	-885.34	-1,078.85	1,083.78	0.56	0.52	0.22
8,271.43	93.31	269.15	7,237.12	-885.54	-1,092.40	1,097.33	0.23	0.22	-0.07
8,285.00	93.31	269.07	7,236.33	-885.75	-1,105.95	1,110.87	0.59	0.00	-0.59
8,298.43	93.25	268.89	7,235.57	-885.99	-1,119.35	1,124.28	1.41	-0.45	-1.34
8,311.86	93.14	268.65	7,234.82	-886.28	-1,132.76	1,137.69	1.96	-0.82	-1.79
8,325.29	93.02	268.37	7,234.10	-886.63	-1,146.16	1,151.10	2.27	-0.89	-2.08
8,338.71	92.89	268.08	7,233.40	-887.04	-1,159.56	1,164.49	2.37	-0.97	-2.16
8,352.14	92.77	267.79	7,232.74	-887.52	-1,172.96	1,177.90	2.33	-0.89	-2.16
8,365.57	92.67	267.53	7,232.10	-888.07	-1,186.37	1,191.31	2.07	-0.74	-1.94
8,379.00	92.61	267.30	7,231.48	-888.68	-1,199.77	1,204.71	1.77	-0.45	-1.71
8,393.88	92.63	267.14	7,230.80	-889.40	-1,214.62	1,219.56	1.08	0.13	-1.08
8,408.75	92.71	267.04	7,230.11	-890.15	-1,229.45	1,234.40	0.86	0.54	-0.67
8,423.63	92.81	266.97	7,229.40	-890.93	-1,244.29	1,249.25	0.82	0.67	-0.47
8,438.50	92.93	266.92	7,228.65	-891.72	-1,259.12	1,264.08	0.87	0.81	-0.34
8,453.38	93.06	266.89	7,227.87	-892.52	-1,273.96	1,278.93	0.90	0.87	-0.20
8,468.25	93.18	266.86	7,227.06	-893.33	-1,288.79	1,293.76	0.83	0.81	-0.20
8,483.13	93.29	266.83	7,226.22	-894.15	-1,303.62	1,308.60	0.77	0.74	-0.20
8,498.00	93.36	266.79	7,225.36	-894.98	-1,318.44	1,323.42	0.54	0.47	-0.27
8,511.57	93.38	266.74	7,224.56	-895.74	-1,331.97	1,336.95	0.40	0.15	-0.37
8,525.14	93.37	266.69	7,223.77	-896.52	-1,345.49	1,350.48	0.38	-0.07	-0.37
8,538.71	93.34	266.63	7,222.97	-897.31	-1,359.02	1,364.01	0.49	-0.22	-0.44
8,552.29	93.30	266.57	7,222.18	-898.11	-1,372.55	1,377.54	0.53	-0.29	-0.44
8,565.86	93.27	266.51	7,221.41	-898.93	-1,386.07	1,391.07	0.49	-0.22	-0.44



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,579.43	93.00	266.64	7,220.67	-899.74	-1,399.60	1,404.60	2.21	-1.99	0.96
8,593.00	91.82	267.45	7,220.09	-900.44	-1,413.14	1,418.14	10.54	-8.70	5.97
8,606.43	91.83	267.42	7,219.67	-901.04	-1,426.55	1,431.56	0.24	0.07	-0.22
8,619.86	91.84	267.39	7,219.24	-901.64	-1,439.96	1,444.97	0.24	0.07	-0.22
8,633.29	91.87	267.37	7,218.80	-902.26	-1,453.37	1,458.38	0.27	0.22	-0.15
8,646.71	91.90	267.36	7,218.36	-902.87	-1,466.76	1,471.78	0.24	0.22	-0.07
8,660.14	91.95	267.35	7,217.91	-903.49	-1,480.17	1,485.20	0.38	0.37	-0.07
8,673.57	92.01	267.36	7,217.45	-904.11	-1,493.58	1,498.61	0.45	0.45	0.07
8,687.00	92.10	267.37	7,216.96	-904.73	-1,506.99	1,512.02	0.67	0.67	0.07
8,700.57	92.22	267.41	7,216.45	-905.35	-1,520.53	1,525.57	0.93	0.88	0.29
8,714.14	92.36	267.45	7,215.91	-905.96	-1,534.08	1,539.12	1.07	1.03	0.29
8,727.71	92.52	267.50	7,215.33	-906.55	-1,547.62	1,552.66	1.24	1.18	0.37
8,741.29	92.67	267.55	7,214.72	-907.14	-1,561.18	1,566.22	1.16	1.10	0.37
8,754.86	92.81	267.59	7,214.07	-907.71	-1,574.72	1,579.76	1.07	1.03	0.29
8,768.43	92.92	267.62	7,213.39	-908.28	-1,588.26	1,593.31	0.84	0.81	0.22
8,782.00	93.01	267.64	7,212.69	-908.84	-1,601.80	1,606.85	0.68	0.66	0.15
8,795.43	93.03	267.62	7,211.98	-909.40	-1,615.20	1,620.25	0.21	0.15	-0.15
8,808.86	93.01	267.59	7,211.27	-909.96	-1,628.60	1,633.66	0.27	-0.15	-0.22
8,822.29	92.98	267.54	7,210.57	-910.53	-1,642.00	1,647.06	0.43	-0.22	-0.37
8,835.71	92.95	267.48	7,209.88	-911.11	-1,655.39	1,660.45	0.50	-0.22	-0.45
8,849.14	92.93	267.41	7,209.19	-911.71	-1,668.79	1,673.85	0.54	-0.15	-0.52
8,862.57	92.85	267.40	7,208.51	-912.31	-1,682.19	1,687.26	0.60	-0.60	-0.07
8,876.00	91.74	268.29	7,207.97	-912.82	-1,695.60	1,700.67	10.59	-8.27	6.63
8,889.43	91.13	268.41	7,207.64	-913.20	-1,709.02	1,714.09	4.63	-4.54	0.89
8,902.86	91.28	268.29	7,207.36	-913.59	-1,722.44	1,727.51	1.43	1.12	-0.89
8,916.29	91.46	268.16	7,207.03	-914.01	-1,735.86	1,740.94	1.65	1.34	-0.97
8,929.71	91.64	268.03	7,206.67	-914.45	-1,749.27	1,754.35	1.65	1.34	-0.97
8,943.14	91.81	267.91	7,206.27	-914.93	-1,762.68	1,767.76	1.55	1.27	-0.89
8,956.57	91.95	267.80	7,205.83	-915.43	-1,776.09	1,781.18	1.33	1.04	-0.82
8,970.00	92.04	267.72	7,205.36	-915.95	-1,789.51	1,794.59	0.90	0.67	-0.60
8,983.43	92.04	267.69	7,204.88	-916.49	-1,802.92	1,808.01	0.22	0.00	-0.22
8,996.86	91.99	267.69	7,204.41	-917.03	-1,816.33	1,821.42	0.37	-0.37	0.00
9,010.29	91.91	267.70	7,203.95	-917.57	-1,829.74	1,834.84	0.60	-0.60	0.07
9,023.71	91.82	267.70	7,203.51	-918.11	-1,843.14	1,848.24	0.67	-0.67	0.00
9,037.14	91.73	267.70	7,203.10	-918.65	-1,856.55	1,861.66	0.67	-0.67	0.00
9,050.57	91.57	267.88	7,202.71	-919.17	-1,869.97	1,875.07	1.79	-1.19	1.34
9,064.00	90.84	269.35	7,202.43	-919.49	-1,883.39	1,888.50	12.22	-5.44	10.95
9,077.57	90.40	270.18	7,202.28	-919.55	-1,896.96	1,902.07	6.92	-3.24	6.12
9,091.14	90.43	270.02	7,202.18	-919.52	-1,910.53	1,915.64	1.20	0.22	-1.18
9,104.71	90.48	269.83	7,202.08	-919.54	-1,924.10	1,929.20	1.45	0.37	-1.40
9,118.29	90.54	269.63	7,201.96	-919.61	-1,937.68	1,942.78	1.54	0.44	-1.47
9,131.86	90.58	269.44	7,201.82	-919.72	-1,951.25	1,956.35	1.43	0.29	-1.40
9,145.43	90.61	269.25	7,201.68	-919.87	-1,964.82	1,969.92	1.42	0.22	-1.40
9,159.00	90.61	269.09	7,201.54	-920.07	-1,978.38	1,983.49	1.18	0.00	-1.18



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,172.43	90.56	268.97	7,201.40	-920.30	-1,991.81	1,996.92	0.97	-0.37	-0.89
9,185.86	90.48	268.89	7,201.28	-920.55	-2,005.24	2,010.35	0.84	-0.60	-0.60
9,199.29	90.39	268.82	7,201.18	-920.81	-2,018.66	2,023.78	0.85	-0.67	-0.52
9,212.71	90.30	268.76	7,201.10	-921.10	-2,032.08	2,037.19	0.81	-0.67	-0.45
9,226.14	90.22	268.70	7,201.04	-921.40	-2,045.51	2,050.62	0.74	-0.60	-0.45
9,239.57	90.02	269.07	7,201.01	-921.66	-2,058.94	2,064.05	3.13	-1.49	2.76
9,253.00	89.40	270.52	7,201.08	-921.70	-2,072.36	2,077.48	11.74	-4.62	10.80
9,266.57	89.22	270.89	7,201.24	-921.54	-2,085.93	2,091.05	3.03	-1.33	2.73
9,280.14	89.30	270.80	7,201.41	-921.34	-2,099.50	2,104.61	0.89	0.59	-0.66
9,293.71	89.40	270.70	7,201.57	-921.16	-2,113.07	2,118.18	1.04	0.74	-0.74
9,307.29	89.51	270.61	7,201.70	-921.00	-2,126.65	2,131.76	1.05	0.81	-0.66
9,320.86	89.64	270.51	7,201.80	-920.87	-2,140.22	2,145.33	1.21	0.96	-0.74
9,334.43	89.77	270.43	7,201.87	-920.76	-2,153.79	2,158.89	1.12	0.96	-0.59
9,348.00	89.91	270.36	7,201.91	-920.67	-2,167.35	2,172.46	1.15	1.03	-0.52
9,361.43	90.05	270.32	7,201.91	-920.59	-2,180.78	2,185.89	1.08	1.04	-0.30
9,374.86	90.19	270.29	7,201.88	-920.52	-2,194.21	2,199.32	1.07	1.04	-0.22
9,388.29	90.33	270.27	7,201.82	-920.45	-2,207.64	2,212.75	1.05	1.04	-0.15
9,401.71	90.47	270.26	7,201.73	-920.39	-2,221.06	2,226.17	1.05	1.04	-0.07
9,415.14	90.60	270.25	7,201.60	-920.33	-2,234.49	2,239.60	0.97	0.97	-0.07
9,428.57	90.74	270.24	7,201.44	-920.27	-2,247.92	2,253.03	1.05	1.04	-0.07
9,442.00	90.87	270.24	7,201.26	-920.21	-2,261.35	2,266.45	0.97	0.97	0.00
9,455.57	90.98	270.23	7,201.04	-920.16	-2,274.92	2,280.02	0.81	0.81	-0.07
9,469.14	91.09	270.23	7,200.79	-920.10	-2,288.49	2,293.59	0.81	0.81	0.00
9,482.71	91.19	270.22	7,200.52	-920.05	-2,302.05	2,307.16	0.74	0.74	-0.07
9,496.29	91.29	270.22	7,200.23	-920.00	-2,315.63	2,320.73	0.74	0.74	0.00
9,509.86	91.39	270.22	7,199.91	-919.95	-2,329.20	2,334.30	0.74	0.74	0.00
9,523.43	91.48	270.22	7,199.57	-919.90	-2,342.76	2,347.86	0.66	0.66	0.00
9,537.00	91.58	270.23	7,199.21	-919.84	-2,356.33	2,361.43	0.74	0.74	0.07
9,550.43	91.66	270.24	7,198.83	-919.79	-2,369.75	2,374.85	0.60	0.60	0.07
9,563.86	91.75	270.26	7,198.43	-919.73	-2,383.18	2,388.27	0.69	0.67	0.15
9,577.29	91.84	270.28	7,198.01	-919.67	-2,396.60	2,401.70	0.69	0.67	0.15
9,590.71	91.92	270.31	7,197.57	-919.60	-2,410.01	2,415.11	0.64	0.60	0.22
9,604.14	92.00	270.34	7,197.11	-919.52	-2,423.43	2,428.53	0.64	0.60	0.22
9,617.57	92.09	270.37	7,196.63	-919.44	-2,436.85	2,441.95	0.71	0.67	0.22
9,631.00	92.17	270.41	7,196.13	-919.35	-2,450.27	2,455.37	0.67	0.60	0.30
9,644.57	92.26	270.47	7,195.61	-919.24	-2,463.83	2,468.93	0.80	0.66	0.44
9,658.14	92.34	270.52	7,195.06	-919.12	-2,477.39	2,482.49	0.70	0.59	0.37
9,671.71	92.42	270.58	7,194.50	-918.99	-2,490.95	2,496.04	0.74	0.59	0.44
9,675.50	92.45	270.59	7,194.34	-918.96	-2,494.74	2,499.83	0.73	0.66	0.29
L08-02-T2500(Dak32-124H)									
9,685.29	92.51	270.62	7,193.91	-918.85	-2,504.52	2,509.61	0.73	0.66	0.29
9,698.86	92.58	270.66	7,193.31	-918.70	-2,518.07	2,523.16	0.59	0.52	0.29
9,712.43	92.65	270.67	7,192.69	-918.54	-2,531.63	2,536.72	0.52	0.52	0.07



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,726.00	92.71	270.64	7,192.06	-918.39	-2,545.18	2,550.27	0.49	0.44	-0.22
9,739.43	92.75	270.56	7,191.42	-918.25	-2,558.60	2,563.68	0.67	0.30	-0.60
9,752.86	92.78	270.45	7,190.77	-918.13	-2,572.01	2,577.10	0.85	0.22	-0.82
9,766.29	92.81	270.33	7,190.12	-918.04	-2,585.42	2,590.51	0.92	0.22	-0.89
9,779.71	92.85	270.20	7,189.45	-917.98	-2,598.83	2,603.91	1.01	0.30	-0.97
9,793.14	92.89	270.08	7,188.78	-917.94	-2,612.24	2,617.33	0.94	0.30	-0.89
9,806.57	92.42	270.16	7,188.16	-917.92	-2,625.66	2,630.74	3.55	-3.50	0.60
9,820.00	90.97	270.54	7,187.76	-917.83	-2,639.08	2,644.16	11.16	-10.80	2.83
9,833.57	90.69	270.57	7,187.56	-917.70	-2,652.65	2,657.73	2.08	-2.06	0.22
9,847.14	90.79	270.55	7,187.39	-917.57	-2,666.22	2,671.30	0.75	0.74	-0.15
9,860.71	90.90	270.55	7,187.19	-917.44	-2,679.78	2,684.87	0.81	0.81	0.00
9,874.29	91.02	270.56	7,186.96	-917.31	-2,693.36	2,698.44	0.89	0.88	0.07
9,887.86	91.16	270.57	7,186.70	-917.17	-2,706.93	2,712.01	1.03	1.03	0.07
9,901.43	91.30	270.58	7,186.41	-917.04	-2,720.49	2,725.57	1.03	1.03	0.07
9,915.00	91.46	270.60	7,186.09	-916.90	-2,734.06	2,739.14	1.19	1.18	0.15
9,928.43	91.63	270.61	7,185.72	-916.76	-2,747.48	2,752.56	1.27	1.27	0.07
9,941.86	91.82	270.62	7,185.32	-916.61	-2,760.91	2,765.98	1.42	1.41	0.07
9,955.29	92.00	270.63	7,184.87	-916.47	-2,774.33	2,779.40	1.34	1.34	0.07
9,968.71	92.18	270.62	7,184.38	-916.32	-2,787.74	2,792.81	1.34	1.34	-0.07
9,982.14	92.34	270.60	7,183.85	-916.18	-2,801.16	2,806.23	1.20	1.19	-0.15
9,995.57	92.48	270.56	7,183.29	-916.04	-2,814.57	2,819.65	1.08	1.04	-0.30
10,009.00	92.57	270.48	7,182.70	-915.92	-2,827.99	2,833.06	0.90	0.67	-0.60
10,022.57	92.59	270.34	7,182.09	-915.82	-2,841.55	2,846.62	1.04	0.15	-1.03
10,036.14	92.57	270.18	7,181.47	-915.76	-2,855.10	2,860.17	1.19	-0.15	-1.18
10,049.71	92.53	269.99	7,180.87	-915.74	-2,868.66	2,873.73	1.43	-0.29	-1.40
10,063.29	92.49	269.81	7,180.28	-915.76	-2,882.23	2,887.30	1.36	-0.29	-1.33
10,076.86	92.47	269.64	7,179.69	-915.83	-2,895.78	2,900.85	1.26	-0.15	-1.25
10,090.43	91.88	269.73	7,179.17	-915.90	-2,909.34	2,914.41	4.40	-4.35	0.66
10,104.00	90.42	270.03	7,178.90	-915.93	-2,922.91	2,927.98	10.98	-10.76	2.21
10,117.43	88.81	270.02	7,178.99	-915.93	-2,936.34	2,941.41	11.99	-11.99	-0.07
10,130.86	88.49	269.95	7,179.31	-915.93	-2,949.77	2,954.84	2.44	-2.38	-0.52
10,144.29	88.72	269.88	7,179.63	-915.95	-2,963.19	2,968.26	1.79	1.71	-0.52
10,157.71	88.98	269.82	7,179.90	-915.98	-2,976.61	2,981.68	1.99	1.94	-0.45
10,171.14	89.25	269.77	7,180.11	-916.03	-2,990.04	2,995.11	2.04	2.01	-0.37
10,184.57	89.50	269.73	7,180.26	-916.09	-3,003.47	3,008.54	1.89	1.86	-0.30
10,198.00	89.73	269.71	7,180.35	-916.16	-3,016.90	3,021.97	1.72	1.71	-0.15
10,211.57	89.91	269.71	7,180.39	-916.23	-3,030.47	3,035.54	1.33	1.33	0.00
10,225.14	90.06	269.73	7,180.39	-916.29	-3,044.04	3,049.11	1.12	1.11	0.15
10,238.71	90.20	269.76	7,180.36	-916.35	-3,057.61	3,062.68	1.06	1.03	0.22
10,252.29	90.32	269.79	7,180.30	-916.41	-3,071.19	3,076.26	0.91	0.88	0.22
10,265.86	90.44	269.84	7,180.21	-916.45	-3,084.76	3,089.83	0.96	0.88	0.37
10,279.43	90.57	269.88	7,180.09	-916.48	-3,098.32	3,103.39	1.00	0.96	0.29
10,293.00	90.72	269.92	7,179.94	-916.51	-3,111.89	3,116.96	1.14	1.11	0.29



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,306.43	90.90	269.96	7,179.75	-916.52	-3,125.32	3,130.39	1.37	1.34	0.30
10,319.86	91.09	270.00	7,179.52	-916.53	-3,138.75	3,143.82	1.45	1.41	0.30
10,333.29	91.30	270.04	7,179.24	-916.52	-3,152.18	3,157.25	1.59	1.56	0.30
10,346.71	91.52	270.08	7,178.91	-916.51	-3,165.59	3,170.66	1.67	1.64	0.30
10,360.14	91.74	270.12	7,178.52	-916.48	-3,179.02	3,184.09	1.66	1.64	0.30
10,373.57	91.97	270.16	7,178.09	-916.45	-3,192.44	3,197.51	1.74	1.71	0.30
10,387.00	92.19	270.20	7,177.60	-916.41	-3,205.86	3,210.93	1.66	1.64	0.30
10,400.43	92.41	270.24	7,177.06	-916.36	-3,219.28	3,224.35	1.66	1.64	0.30
10,413.86	92.63	270.28	7,176.47	-916.30	-3,232.70	3,237.76	1.66	1.64	0.30
10,427.29	92.84	270.31	7,175.83	-916.23	-3,246.11	3,251.18	1.58	1.56	0.22
10,440.71	93.04	270.32	7,175.14	-916.15	-3,259.51	3,264.58	1.49	1.49	0.07
10,454.14	93.21	270.31	7,174.41	-916.08	-3,272.92	3,277.99	1.27	1.27	-0.07
10,467.57	93.36	270.27	7,173.64	-916.01	-3,286.33	3,291.40	1.16	1.12	-0.30
10,481.00	93.47	270.17	7,172.84	-915.96	-3,299.74	3,304.80	1.11	0.82	-0.74
10,494.57	93.50	269.98	7,172.02	-915.94	-3,313.28	3,318.35	1.41	0.22	-1.40
10,508.14	93.50	269.75	7,171.19	-915.97	-3,326.83	3,331.89	1.69	0.00	-1.69
10,521.71	93.49	269.50	7,170.36	-916.06	-3,340.37	3,345.44	1.84	-0.07	-1.84
10,535.29	93.47	269.25	7,169.54	-916.21	-3,353.93	3,358.99	1.84	-0.15	-1.84
10,548.86	93.47	269.02	7,168.72	-916.41	-3,367.47	3,372.54	1.69	0.00	-1.69
10,562.43	92.69	268.75	7,167.99	-916.68	-3,381.02	3,386.08	6.08	-5.75	-1.99
10,576.00	91.23	268.63	7,167.52	-916.99	-3,394.58	3,399.64	10.80	-10.76	-0.88
10,589.43	89.88	268.49	7,167.39	-917.33	-3,408.00	3,413.07	10.11	-10.05	-1.04
10,602.86	90.04	268.40	7,167.40	-917.69	-3,421.43	3,426.50	1.37	1.19	-0.67
10,616.29	90.23	268.32	7,167.37	-918.07	-3,434.85	3,439.92	1.54	1.41	-0.60
10,629.71	90.43	268.24	7,167.29	-918.48	-3,448.26	3,453.34	1.61	1.49	-0.60
10,643.14	90.63	268.18	7,167.17	-918.90	-3,461.69	3,466.76	1.55	1.49	-0.45
10,656.57	90.83	268.12	7,167.00	-919.33	-3,475.11	3,480.19	1.55	1.49	-0.45
10,670.00	91.00	268.07	7,166.78	-919.78	-3,488.53	3,493.61	1.32	1.27	-0.37
10,683.57	91.14	268.04	7,166.53	-920.24	-3,502.09	3,507.17	1.06	1.03	-0.22
10,697.14	91.25	268.01	7,166.25	-920.71	-3,515.65	3,520.74	0.84	0.81	-0.22
10,710.71	91.35	267.99	7,165.94	-921.18	-3,529.21	3,534.30	0.75	0.74	-0.15
10,724.29	91.44	267.97	7,165.61	-921.66	-3,542.77	3,547.87	0.68	0.66	-0.15
10,737.86	91.52	267.96	7,165.26	-922.14	-3,556.33	3,561.43	0.59	0.59	-0.07
10,751.43	91.61	267.95	7,164.89	-922.62	-3,569.89	3,574.98	0.67	0.66	-0.07
10,765.00	91.69	267.95	7,164.50	-923.11	-3,583.44	3,588.54	0.59	0.59	0.00
10,778.43	91.78	267.96	7,164.09	-923.59	-3,596.86	3,601.96	0.67	0.67	0.07
10,791.86	91.88	267.96	7,163.66	-924.06	-3,610.27	3,615.38	0.74	0.74	0.00
10,805.29	91.98	267.97	7,163.21	-924.54	-3,623.69	3,628.79	0.75	0.74	0.07
10,818.71	92.08	267.98	7,162.73	-925.02	-3,637.09	3,642.20	0.75	0.75	0.07
10,832.14	92.18	267.99	7,162.23	-925.49	-3,650.50	3,655.61	0.75	0.74	0.07
10,845.57	92.29	268.00	7,161.71	-925.96	-3,663.91	3,669.03	0.82	0.82	0.07
10,859.00	92.41	268.00	7,161.16	-926.43	-3,677.32	3,682.44	0.89	0.89	0.00
10,872.57	92.53	267.99	7,160.57	-926.90	-3,690.87	3,695.99	0.89	0.88	-0.07
10,886.14	92.66	267.98	7,159.96	-927.38	-3,704.42	3,709.54	0.96	0.96	-0.07



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,899.71	92.79	267.96	7,159.32	-927.86	-3,717.97	3,723.09	0.97	0.96	-0.15
10,913.29	92.91	267.95	7,158.64	-928.34	-3,731.52	3,736.65	0.89	0.88	-0.07
10,926.86	93.01	267.94	7,157.94	-928.83	-3,745.06	3,750.19	0.74	0.74	-0.07
10,940.43	93.08	267.93	7,157.22	-929.31	-3,758.61	3,763.74	0.52	0.52	-0.07
10,954.00	93.11	267.95	7,156.49	-929.80	-3,772.15	3,777.28	0.27	0.22	0.15
10,967.43	93.07	267.98	7,155.76	-930.28	-3,785.55	3,790.69	0.37	-0.30	0.22
10,980.86	92.99	268.02	7,155.05	-930.75	-3,798.95	3,804.09	0.67	-0.60	0.30
10,994.29	92.89	268.06	7,154.36	-931.20	-3,812.36	3,817.50	0.80	-0.74	0.30
11,007.71	92.78	268.10	7,153.70	-931.65	-3,825.75	3,830.90	0.87	-0.82	0.30
11,021.14	92.67	268.13	7,153.06	-932.09	-3,839.16	3,844.31	0.85	-0.82	0.22
11,034.57	92.58	268.14	7,152.45	-932.53	-3,852.57	3,857.72	0.67	-0.67	0.07
11,048.00	91.84	268.83	7,151.93	-932.89	-3,865.99	3,871.14	7.53	-5.51	5.14
11,061.57	90.80	269.33	7,151.62	-933.10	-3,879.55	3,884.70	8.50	-7.66	3.68
11,075.14	89.94	269.85	7,151.53	-933.20	-3,893.12	3,898.27	7.41	-6.34	3.83
11,088.71	89.91	269.70	7,151.55	-933.25	-3,906.69	3,911.84	1.13	-0.22	-1.11
11,102.29	89.89	269.53	7,151.57	-933.35	-3,920.27	3,925.42	1.26	-0.15	-1.25
11,115.86	89.87	269.35	7,151.60	-933.48	-3,933.84	3,938.99	1.33	-0.15	-1.33
11,129.43	89.87	269.18	7,151.63	-933.65	-3,947.41	3,952.56	1.25	0.00	-1.25
11,143.00	89.89	269.04	7,151.66	-933.86	-3,960.98	3,966.13	1.04	0.15	-1.03
11,156.43	89.96	268.95	7,151.67	-934.10	-3,974.40	3,979.56	0.85	0.52	-0.67
11,169.86	90.05	268.90	7,151.67	-934.35	-3,987.83	3,992.99	0.77	0.67	-0.37
11,183.29	90.16	268.86	7,151.65	-934.61	-4,001.26	4,006.42	0.87	0.82	-0.30
11,196.71	90.28	268.83	7,151.60	-934.88	-4,014.68	4,019.83	0.92	0.89	-0.22
11,210.14	90.41	268.81	7,151.52	-935.16	-4,028.10	4,033.26	0.98	0.97	-0.15
11,223.57	90.53	268.79	7,151.41	-935.44	-4,041.53	4,046.69	0.91	0.89	-0.15
11,237.00	90.65	268.76	7,151.27	-935.73	-4,054.96	4,060.12	0.92	0.89	-0.22
11,250.43	90.75	268.71	7,151.10	-936.03	-4,068.38	4,073.55	0.83	0.74	-0.37
11,263.86	90.85	268.65	7,150.92	-936.33	-4,081.81	4,086.97	0.87	0.74	-0.45
11,277.29	90.94	268.59	7,150.71	-936.66	-4,095.23	4,100.40	0.81	0.67	-0.45
11,290.71	91.04	268.52	7,150.47	-937.00	-4,108.64	4,113.81	0.91	0.75	-0.52
11,304.14	91.14	268.46	7,150.22	-937.35	-4,122.07	4,127.24	0.87	0.74	-0.45
11,317.57	91.24	268.40	7,149.94	-937.72	-4,135.49	4,140.66	0.87	0.74	-0.45
11,331.00	91.36	268.35	7,149.64	-938.10	-4,148.91	4,154.08	0.97	0.89	-0.37
11,344.57	91.50	268.31	7,149.30	-938.49	-4,162.47	4,167.65	1.07	1.03	-0.29
11,358.14	91.64	268.28	7,148.92	-938.90	-4,176.03	4,181.21	1.06	1.03	-0.22
11,371.71	91.79	268.26	7,148.52	-939.31	-4,189.59	4,194.77	1.12	1.11	-0.15
11,385.29	91.93	268.24	7,148.08	-939.72	-4,203.15	4,208.34	1.04	1.03	-0.15
11,398.86	92.06	268.23	7,147.61	-940.14	-4,216.71	4,221.89	0.96	0.96	-0.07
11,412.43	92.16	268.24	7,147.11	-940.56	-4,230.26	4,235.45	0.74	0.74	0.07
11,426.00	92.22	268.26	7,146.59	-940.97	-4,243.82	4,249.01	0.47	0.44	0.15
11,439.57	92.21	268.30	7,146.06	-941.38	-4,257.37	4,262.56	0.30	-0.07	0.29
11,453.14	92.17	268.35	7,145.54	-941.77	-4,270.92	4,276.12	0.47	-0.29	0.37
11,466.71	92.10	268.41	7,145.04	-942.16	-4,284.48	4,289.68	0.68	-0.52	0.44



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,480.29	92.04	268.47	7,144.55	-942.53	-4,298.05	4,303.24	0.62	-0.44	0.44
11,493.86	91.98	268.52	7,144.07	-942.88	-4,311.60	4,316.80	0.58	-0.44	0.37
11,507.43	91.84	269.00	7,143.62	-943.18	-4,325.16	4,330.36	3.68	-1.03	3.54
11,521.00	91.65	270.26	7,143.21	-943.26	-4,338.73	4,343.93	9.39	-1.40	9.29
11,534.43	91.66	270.83	7,142.82	-943.14	-4,352.15	4,357.35	4.24	0.07	4.24
11,547.86	91.71	270.84	7,142.42	-942.94	-4,365.57	4,370.77	0.38	0.37	0.07
11,561.29	91.77	270.84	7,142.02	-942.74	-4,378.99	4,384.19	0.45	0.45	0.00
11,574.71	91.84	270.83	7,141.59	-942.55	-4,392.41	4,397.60	0.53	0.52	-0.07
11,588.14	91.92	270.83	7,141.15	-942.35	-4,405.83	4,411.02	0.60	0.60	0.00
11,601.57	92.02	270.83	7,140.69	-942.16	-4,419.25	4,424.44	0.74	0.74	0.00
11,615.00	92.14	270.83	7,140.20	-941.97	-4,432.67	4,437.86	0.89	0.89	0.00
11,628.57	92.27	270.83	7,139.68	-941.77	-4,446.23	4,451.42	0.96	0.96	0.00
11,642.14	92.43	270.84	7,139.13	-941.57	-4,459.78	4,464.97	1.18	1.18	0.07
11,655.71	92.60	270.85	7,138.53	-941.37	-4,473.34	4,478.53	1.25	1.25	0.07
11,669.29	92.77	270.86	7,137.89	-941.17	-4,486.90	4,492.09	1.25	1.25	0.07
11,682.86	92.95	270.87	7,137.22	-940.96	-4,500.45	4,505.64	1.33	1.33	0.07
11,696.43	93.14	270.88	7,136.50	-940.76	-4,514.00	4,519.19	1.40	1.40	0.07
11,710.00	93.32	270.88	7,135.73	-940.55	-4,527.55	4,532.73	1.33	1.33	0.00
11,723.43	93.51	270.89	7,134.93	-940.34	-4,540.95	4,546.14	1.42	1.41	0.07
11,736.86	93.69	270.89	7,134.09	-940.13	-4,554.36	4,559.54	1.34	1.34	0.00
11,750.29	93.88	270.89	7,133.20	-939.93	-4,567.76	4,572.93	1.41	1.41	0.00
11,763.71	94.06	270.89	7,132.27	-939.72	-4,581.14	4,586.32	1.34	1.34	0.00
11,777.14	94.24	270.90	7,131.30	-939.51	-4,594.54	4,599.71	1.34	1.34	0.07
11,790.57	94.42	270.91	7,130.29	-939.30	-4,607.93	4,613.10	1.34	1.34	0.07
11,804.00	94.60	270.93	7,129.23	-939.08	-4,621.31	4,626.48	1.35	1.34	0.15
11,817.57	94.77	270.98	7,128.12	-938.86	-4,634.83	4,640.01	1.31	1.25	0.37
11,831.14	94.93	271.03	7,126.97	-938.62	-4,648.35	4,653.52	1.23	1.18	0.37
11,844.71	95.09	271.08	7,125.79	-938.37	-4,661.87	4,667.04	1.23	1.18	0.37
11,858.29	95.25	271.13	7,124.57	-938.11	-4,675.39	4,680.56	1.23	1.18	0.37
11,871.86	95.39	271.17	7,123.31	-937.84	-4,688.90	4,694.07	1.07	1.03	0.29
11,885.43	95.53	271.18	7,122.02	-937.56	-4,702.41	4,707.57	1.03	1.03	0.07
11,899.00	95.66	271.15	7,120.69	-937.29	-4,715.91	4,721.07	0.98	0.96	-0.22
11,912.43	95.77	271.06	7,119.36	-937.03	-4,729.27	4,734.43	1.06	0.82	-0.67
11,925.86	95.87	270.94	7,117.99	-936.80	-4,742.63	4,747.79	1.16	0.74	-0.89
11,939.29	95.96	270.81	7,116.61	-936.59	-4,755.99	4,761.14	1.17	0.67	-0.97
11,952.71	96.05	270.67	7,115.21	-936.42	-4,769.33	4,774.49	1.24	0.67	-1.04
11,966.14	96.14	270.54	7,113.78	-936.28	-4,782.68	4,787.84	1.17	0.67	-0.97
11,979.57	95.41	270.84	7,112.43	-936.12	-4,796.04	4,801.20	5.87	-5.44	2.23
11,993.00	94.14	271.45	7,111.31	-935.85	-4,809.43	4,814.58	10.48	-9.46	4.54
12,006.57	94.26	271.42	7,110.32	-935.51	-4,822.95	4,828.10	0.91	0.88	-0.22
12,020.14	94.38	271.40	7,109.30	-935.18	-4,836.48	4,841.63	0.90	0.88	-0.15
12,033.71	94.51	271.40	7,108.24	-934.85	-4,850.01	4,855.15	0.96	0.96	0.00
12,047.29	94.64	271.40	7,107.16	-934.52	-4,863.54	4,868.68	0.96	0.96	0.00



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,060.86	94.78	271.41	7,106.05	-934.19	-4,877.06	4,882.20	1.03	1.03	0.07	
12,074.43	94.92	271.43	7,104.90	-933.85	-4,890.58	4,895.72	1.04	1.03	0.15	
12,088.00	95.06	271.44	7,103.72	-933.51	-4,904.09	4,909.23	1.03	1.03	0.07	
12,101.43	95.20	271.47	7,102.52	-933.17	-4,917.46	4,922.60	1.07	1.04	0.22	
12,114.86	95.35	271.50	7,101.28	-932.83	-4,930.83	4,935.96	1.14	1.12	0.22	
12,128.29	95.50	271.52	7,100.01	-932.47	-4,944.20	4,949.33	1.13	1.12	0.15	
12,141.71	95.65	271.55	7,098.71	-932.12	-4,957.55	4,962.68	1.14	1.12	0.22	
12,155.14	95.80	271.58	7,097.37	-931.75	-4,970.91	4,976.03	1.14	1.12	0.22	
12,168.57	95.96	271.61	7,095.99	-931.38	-4,984.26	4,989.39	1.21	1.19	0.22	
12,174.05	96.03	271.63	7,095.42	-931.23	-4,989.71	4,994.84	1.23	1.19	0.30	
L08-03-T5000(Dak32-124H)										
12,182.00	96.12	271.65	7,094.58	-931.00	-4,997.61	5,002.73	1.23	1.19	0.30	
12,195.57	96.29	271.69	7,093.11	-930.61	-5,011.10	5,016.22	1.29	1.25	0.29	
12,209.14	96.46	271.72	7,091.61	-930.21	-5,024.58	5,029.69	1.27	1.25	0.22	
12,222.71	96.63	271.75	7,090.06	-929.80	-5,038.05	5,043.17	1.27	1.25	0.22	
12,236.29	96.79	271.77	7,088.47	-929.38	-5,051.53	5,056.64	1.19	1.18	0.15	
12,249.86	96.93	271.76	7,086.85	-928.97	-5,065.00	5,070.11	1.03	1.03	-0.07	
12,263.43	97.05	271.72	7,085.20	-928.56	-5,078.46	5,083.57	0.93	0.88	-0.29	
12,277.00	97.14	271.63	7,083.53	-928.17	-5,091.92	5,097.03	0.93	0.66	-0.66	
12,290.57	97.16	271.47	7,081.84	-927.80	-5,105.38	5,110.48	1.18	0.15	-1.18	
12,304.14	97.16	271.26	7,080.14	-927.48	-5,118.84	5,123.94	1.54	0.00	-1.55	
12,317.71	97.13	271.03	7,078.46	-927.21	-5,132.30	5,137.40	1.70	-0.22	-1.69	
12,331.29	97.12	270.78	7,076.77	-927.00	-5,145.78	5,150.87	1.83	-0.07	-1.84	
12,344.86	97.12	270.52	7,075.09	-926.85	-5,159.24	5,164.34	1.90	0.00	-1.92	
12,358.43	95.74	270.67	7,073.57	-926.71	-5,172.72	5,177.82	10.23	-10.17	1.11	
12,372.00	94.33	270.79	7,072.38	-926.53	-5,186.24	5,191.33	10.43	-10.39	0.88	
12,385.43	94.11	270.59	7,071.39	-926.37	-5,199.63	5,204.73	2.21	-1.64	-1.49	
12,398.86	94.23	270.28	7,070.42	-926.27	-5,213.03	5,218.12	2.47	0.89	-2.31	
12,412.29	94.37	269.96	7,069.41	-926.24	-5,226.42	5,231.51	2.59	1.04	-2.38	
12,425.71	94.52	269.64	7,068.37	-926.29	-5,239.80	5,244.89	2.63	1.12	-2.38	
12,439.14	94.69	269.35	7,067.29	-926.41	-5,253.19	5,258.28	2.50	1.27	-2.16	
12,452.57	94.33	269.27	7,066.23	-926.57	-5,266.57	5,271.67	2.75	-2.68	-0.60	
12,466.00	93.21	269.37	7,065.35	-926.73	-5,279.97	5,285.07	8.37	-8.34	0.74	
12,479.57	93.49	269.23	7,064.56	-926.89	-5,293.52	5,298.61	2.31	2.06	-1.03	
12,493.14	93.80	269.12	7,063.70	-927.09	-5,307.06	5,312.15	2.42	2.28	-0.81	
12,506.71	94.13	269.02	7,062.76	-927.31	-5,320.60	5,325.69	2.54	2.43	-0.74	
12,520.29	94.45	268.91	7,061.74	-927.55	-5,334.14	5,339.23	2.49	2.36	-0.81	
12,533.86	94.75	268.77	7,060.65	-927.83	-5,347.66	5,352.76	2.44	2.21	-1.03	
12,547.43	95.01	268.59	7,059.50	-928.14	-5,361.18	5,366.28	2.33	1.92	-1.33	
12,561.00	95.22	268.32	7,058.29	-928.50	-5,374.69	5,379.79	2.51	1.55	-1.99	
12,574.43	95.31	267.92	7,057.06	-928.94	-5,388.05	5,393.16	3.04	0.67	-2.98	
12,587.86	95.35	267.45	7,055.81	-929.48	-5,401.41	5,406.52	3.50	0.30	-3.50	
12,601.29	95.36	266.94	7,054.56	-930.13	-5,414.77	5,419.88	3.78	0.07	-3.80	
12,614.71	95.34	266.44	7,053.30	-930.91	-5,428.11	5,433.22	3.71	-0.15	-3.73	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,628.14	95.33	265.99	7,052.06	-931.79	-5,441.45	5,446.57	3.34	-0.07	-3.35
12,641.57	94.34	266.21	7,050.92	-932.70	-5,454.80	5,459.93	7.55	-7.37	1.64
12,655.00	93.04	266.56	7,050.06	-933.54	-5,468.18	5,473.31	10.02	-9.68	2.61
12,668.57	92.50	266.59	7,049.40	-934.35	-5,481.71	5,486.84	3.99	-3.98	0.22
12,682.14	92.55	266.40	7,048.81	-935.18	-5,495.24	5,500.38	1.45	0.37	-1.40
12,695.71	92.60	266.23	7,048.20	-936.05	-5,508.77	5,513.91	1.30	0.37	-1.25
12,709.29	92.65	266.08	7,047.57	-936.96	-5,522.30	5,527.45	1.16	0.37	-1.10
12,722.86	92.69	265.94	7,046.94	-937.91	-5,535.82	5,540.98	1.07	0.29	-1.03
12,736.43	92.55	266.37	7,046.32	-938.82	-5,549.35	5,554.51	3.33	-1.03	3.17
12,750.00	92.12	267.54	7,045.77	-939.54	-5,562.89	5,568.05	9.18	-3.17	8.62
12,763.43	91.91	267.76	7,045.30	-940.09	-5,576.30	5,581.46	2.26	-1.56	1.64
12,776.86	91.85	267.64	7,044.86	-940.63	-5,589.71	5,594.88	1.00	-0.45	-0.89
12,790.29	91.78	267.53	7,044.43	-941.19	-5,603.12	5,608.29	0.97	-0.52	-0.82
12,803.71	91.70	267.40	7,044.02	-941.78	-5,616.52	5,621.70	1.14	-0.60	-0.97
12,817.14	91.62	267.27	7,043.63	-942.41	-5,629.93	5,635.11	1.14	-0.60	-0.97
12,830.57	91.54	267.11	7,043.26	-943.07	-5,643.34	5,648.52	1.33	-0.60	-1.19
12,844.00	91.28	267.92	7,042.93	-943.65	-5,656.76	5,661.94	6.33	-1.94	6.03
12,857.57	90.62	268.91	7,042.71	-944.02	-5,670.32	5,675.50	8.77	-4.86	7.30
12,871.14	89.87	269.86	7,042.65	-944.17	-5,683.89	5,689.07	8.92	-5.53	7.00
12,884.71	89.78	269.47	7,042.69	-944.25	-5,697.46	5,702.64	2.95	-0.66	-2.87
12,898.29	89.68	269.03	7,042.76	-944.43	-5,711.04	5,716.22	3.32	-0.74	-3.24
12,911.86	89.57	268.61	7,042.84	-944.71	-5,724.60	5,729.79	3.20	-0.81	-3.10
12,925.43	89.47	268.24	7,042.96	-945.08	-5,738.17	5,743.36	2.82	-0.74	-2.73
12,939.00	89.37	267.97	7,043.10	-945.53	-5,751.73	5,756.92	2.12	-0.74	-1.99
12,952.43	89.29	267.90	7,043.25	-946.01	-5,765.15	5,770.34	0.79	-0.60	-0.52
12,965.86	89.22	267.93	7,043.43	-946.50	-5,778.57	5,783.76	0.57	-0.52	0.22
12,979.29	89.16	268.04	7,043.62	-946.97	-5,791.99	5,797.19	0.93	-0.45	0.82
12,992.71	89.10	268.17	7,043.82	-947.42	-5,805.40	5,810.60	1.07	-0.45	0.97
13,006.14	89.05	268.30	7,044.04	-947.83	-5,818.82	5,824.02	1.04	-0.37	0.97
13,019.57	88.99	268.40	7,044.27	-948.22	-5,832.24	5,837.45	0.87	-0.45	0.74
13,033.00	89.21	269.18	7,044.48	-948.50	-5,845.67	5,850.88	6.03	1.64	5.81
13,046.57	89.36	270.41	7,044.65	-948.55	-5,859.24	5,864.44	9.13	1.11	9.06
13,060.14	89.20	271.66	7,044.82	-948.30	-5,872.80	5,878.01	9.29	-1.18	9.21
13,073.71	89.07	271.89	7,045.02	-947.88	-5,886.37	5,891.57	1.95	-0.96	1.69
13,087.29	88.93	271.65	7,045.26	-947.46	-5,899.94	5,905.14	2.05	-1.03	-1.77
13,100.86	88.78	271.39	7,045.53	-947.10	-5,913.50	5,918.70	2.21	-1.11	-1.92
13,114.43	88.67	271.14	7,045.83	-946.80	-5,927.06	5,932.26	2.01	-0.81	-1.84
13,128.00	88.60	270.91	7,046.16	-946.56	-5,940.63	5,945.82	1.77	-0.52	-1.69
13,141.43	88.62	270.75	7,046.48	-946.37	-5,954.05	5,959.25	1.20	0.15	-1.19
13,154.86	88.70	270.62	7,046.80	-946.21	-5,967.48	5,972.67	1.14	0.60	-0.97
13,168.29	88.81	270.51	7,047.09	-946.07	-5,980.90	5,986.09	1.16	0.82	-0.82
13,181.71	88.95	270.41	7,047.35	-945.97	-5,994.32	5,999.51	1.28	1.04	-0.75
13,195.14	89.09	270.33	7,047.58	-945.88	-6,007.75	6,012.94	1.20	1.04	-0.60



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,208.57	89.25	270.25	7,047.77	-945.81	-6,021.18	6,026.37	1.33	1.19	-0.60	
13,222.00	89.39	270.17	7,047.93	-945.76	-6,034.61	6,039.79	1.20	1.04	-0.60	
13,235.57	89.52	270.08	7,048.06	-945.73	-6,048.18	6,053.36	1.17	0.96	-0.66	
13,249.14	89.64	269.99	7,048.16	-945.72	-6,061.75	6,066.93	1.11	0.88	-0.66	
13,262.71	89.76	269.90	7,048.23	-945.74	-6,075.31	6,080.50	1.11	0.88	-0.66	
13,276.29	89.87	269.80	7,048.28	-945.77	-6,088.89	6,094.08	1.09	0.81	-0.74	
13,289.86	89.98	269.70	7,048.29	-945.83	-6,102.46	6,107.65	1.10	0.81	-0.74	
13,303.43	90.10	269.59	7,048.29	-945.92	-6,116.03	6,121.22	1.20	0.88	-0.81	
13,317.00	90.22	269.47	7,048.25	-946.03	-6,129.60	6,134.79	1.25	0.88	-0.88	
13,330.43	90.36	269.33	7,048.18	-946.17	-6,143.03	6,148.22	1.47	1.04	-1.04	
13,343.86	90.50	269.19	7,048.08	-946.34	-6,156.46	6,161.65	1.47	1.04	-1.04	
13,357.29	90.64	269.03	7,047.95	-946.55	-6,169.89	6,175.08	1.58	1.04	-1.19	
13,370.71	90.79	268.88	7,047.78	-946.80	-6,183.31	6,188.50	1.58	1.12	-1.12	
13,384.14	90.95	268.72	7,047.57	-947.08	-6,196.73	6,201.92	1.68	1.19	-1.19	
13,397.57	91.11	268.57	7,047.33	-947.39	-6,210.16	6,215.35	1.63	1.19	-1.12	
13,411.00	91.29	268.42	7,047.05	-947.75	-6,223.58	6,228.77	1.74	1.34	-1.12	
13,424.57	91.48	268.27	7,046.72	-948.14	-6,237.14	6,242.34	1.78	1.40	-1.11	
13,438.14	91.68	268.13	7,046.35	-948.56	-6,250.70	6,255.90	1.80	1.47	-1.03	
13,451.71	91.88	267.99	7,045.93	-949.02	-6,264.25	6,269.45	1.80	1.47	-1.03	
13,465.29	92.06	267.86	7,045.46	-949.52	-6,277.82	6,283.02	1.63	1.33	-0.96	
13,478.86	92.22	267.73	7,044.95	-950.04	-6,291.37	6,296.57	1.52	1.18	-0.96	
13,492.43	92.33	267.60	7,044.42	-950.59	-6,304.91	6,310.12	1.25	0.81	-0.96	
13,506.00	92.38	267.49	7,043.86	-951.17	-6,318.46	6,323.67	0.89	0.37	-0.81	
13,519.43	92.33	267.39	7,043.31	-951.77	-6,331.86	6,337.08	0.83	-0.37	-0.74	
13,532.86	92.22	267.29	7,042.77	-952.39	-6,345.27	6,350.49	1.11	-0.82	-0.74	
13,546.29	92.08	267.20	7,042.27	-953.04	-6,358.67	6,363.90	1.24	-1.04	-0.67	
13,559.71	91.94	267.11	7,041.80	-953.70	-6,372.07	6,377.30	1.24	-1.04	-0.67	
13,573.14	91.83	267.02	7,041.36	-954.39	-6,385.48	6,390.71	1.06	-0.82	-0.67	
13,586.57	91.52	267.62	7,040.96	-955.02	-6,398.88	6,404.12	5.03	-2.31	4.47	
13,600.00	90.94	268.93	7,040.68	-955.42	-6,412.31	6,417.54	10.67	-4.32	9.75	
13,613.57	90.55	270.28	7,040.50	-955.52	-6,425.87	6,431.11	10.35	-2.87	9.95	
13,627.14	90.66	270.90	7,040.36	-955.38	-6,439.44	6,444.68	4.64	0.81	4.57	
13,640.71	90.91	270.74	7,040.17	-955.18	-6,453.01	6,458.24	2.19	1.84	-1.18	
13,654.29	91.19	270.57	7,039.92	-955.03	-6,466.59	6,471.82	2.41	2.06	-1.25	
13,667.86	91.49	270.40	7,039.60	-954.91	-6,480.15	6,485.38	2.54	2.21	-1.25	
13,681.43	91.80	270.23	7,039.21	-954.84	-6,493.72	6,498.95	2.61	2.28	-1.25	
13,695.00	92.09	270.06	7,038.75	-954.80	-6,507.28	6,512.51	2.48	2.14	-1.25	
13,708.43	92.34	269.91	7,038.23	-954.81	-6,520.70	6,525.93	2.17	1.86	-1.12	
13,721.86	92.57	269.76	7,037.66	-954.84	-6,534.12	6,539.35	2.04	1.71	-1.12	
13,735.29	92.76	269.61	7,037.03	-954.92	-6,547.53	6,552.76	1.80	1.41	-1.12	
13,748.71	92.91	269.47	7,036.37	-955.03	-6,560.93	6,566.17	1.53	1.12	-1.04	
13,762.14	93.02	269.33	7,035.68	-955.17	-6,574.35	6,579.58	1.32	0.82	-1.04	
13,775.57	93.07	269.19	7,034.96	-955.34	-6,587.76	6,592.99	1.11	0.37	-1.04	
13,789.00	93.02	269.06	7,034.25	-955.54	-6,601.16	6,606.40	1.04	-0.37	-0.97	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,802.43	92.83	268.94	7,033.56	-955.78	-6,614.58	6,619.81	1.67	-1.41	-0.89
13,815.86	92.56	268.81	7,032.93	-956.04	-6,627.99	6,633.22	2.23	-2.01	-0.97
13,829.29	92.25	268.69	7,032.37	-956.33	-6,641.40	6,646.64	2.47	-2.31	-0.89
13,842.71	91.93	268.56	7,031.88	-956.66	-6,654.81	6,660.05	2.57	-2.38	-0.97
13,856.14	91.65	268.41	7,031.46	-957.01	-6,668.23	6,673.47	2.36	-2.08	-1.12
13,869.57	91.16	268.66	7,031.13	-957.35	-6,681.65	6,686.89	4.10	-3.65	1.86
13,883.00	90.25	269.66	7,030.97	-957.55	-6,695.08	6,700.32	10.07	-6.78	7.45
13,896.43	89.49	270.76	7,031.00	-957.50	-6,708.51	6,713.75	9.96	-5.66	8.19
13,909.86	89.49	270.98	7,031.12	-957.30	-6,721.93	6,727.18	1.64	0.00	1.64
13,923.29	89.55	270.64	7,031.23	-957.11	-6,735.36	6,740.60	2.57	0.45	-2.53
13,936.71	89.64	270.29	7,031.32	-957.00	-6,748.78	6,754.02	2.69	0.67	-2.61
13,950.14	89.72	269.95	7,031.40	-956.97	-6,762.21	6,767.45	2.60	0.60	-2.53
13,963.57	89.80	269.67	7,031.45	-957.02	-6,775.64	6,780.88	2.17	0.60	-2.08
13,977.00	89.83	269.47	7,031.50	-957.12	-6,789.07	6,794.31	1.51	0.22	-1.49
13,990.57	89.79	269.42	7,031.54	-957.25	-6,802.64	6,807.88	0.47	-0.29	-0.37
14,004.14	89.70	269.46	7,031.60	-957.38	-6,816.21	6,821.45	0.73	-0.66	0.29
14,017.71	89.59	269.55	7,031.69	-957.50	-6,829.78	6,835.02	1.05	-0.81	0.66
14,031.29	89.46	269.66	7,031.80	-957.59	-6,843.36	6,848.60	1.25	-0.96	0.81
14,044.86	89.33	269.77	7,031.94	-957.66	-6,856.93	6,862.17	1.25	-0.96	0.81
14,058.43	89.24	270.23	7,032.11	-957.66	-6,870.50	6,875.74	3.45	-0.66	3.39
14,072.00	89.34	271.35	7,032.28	-957.47	-6,884.06	6,889.30	8.29	0.74	8.25
14,085.43	89.85	272.52	7,032.38	-957.02	-6,897.49	6,902.72	9.50	3.80	8.71
14,098.86	90.05	273.09	7,032.39	-956.36	-6,910.90	6,916.13	4.50	1.49	4.24
14,112.29	89.86	273.04	7,032.40	-955.64	-6,924.31	6,929.54	1.46	-1.41	-0.37
14,125.71	89.66	273.00	7,032.45	-954.94	-6,937.71	6,942.94	1.52	-1.49	-0.30
14,139.14	89.46	272.96	7,032.56	-954.24	-6,951.12	6,956.34	1.52	-1.49	-0.30
14,152.57	89.29	272.95	7,032.70	-953.55	-6,964.53	6,969.75	1.27	-1.27	-0.07
14,166.00	89.15	272.98	7,032.89	-952.85	-6,977.94	6,983.16	1.07	-1.04	0.22
14,179.43	89.09	273.08	7,033.09	-952.14	-6,991.35	6,996.56	0.87	-0.45	0.74
14,192.86	89.07	273.22	7,033.31	-951.40	-7,004.76	7,009.97	1.05	-0.15	1.04
14,206.29	89.08	273.38	7,033.52	-950.63	-7,018.17	7,023.37	1.19	0.07	1.19
14,219.71	89.11	273.53	7,033.74	-949.82	-7,031.56	7,036.76	1.14	0.22	1.12
14,233.14	89.15	273.67	7,033.94	-948.98	-7,044.96	7,050.15	1.08	0.30	1.04
14,246.57	89.80	273.91	7,034.06	-948.09	-7,058.36	7,063.55	5.16	4.84	1.79
14,260.00	90.74	274.19	7,034.00	-947.14	-7,071.76	7,076.94	7.30	7.00	2.08
14,273.57	90.83	274.19	7,033.81	-946.15	-7,085.29	7,090.47	0.66	0.66	0.00
14,287.14	90.94	274.14	7,033.61	-945.17	-7,098.83	7,103.99	0.89	0.81	-0.37
14,300.71	91.06	274.08	7,033.37	-944.19	-7,112.36	7,117.52	0.99	0.88	-0.44
14,314.29	91.19	273.99	7,033.10	-943.24	-7,125.90	7,131.06	1.16	0.96	-0.66
14,327.86	91.32	273.89	7,032.80	-942.31	-7,139.44	7,144.59	1.21	0.96	-0.74
14,341.43	91.46	273.78	7,032.48	-941.40	-7,152.97	7,158.12	1.31	1.03	-0.81
14,355.00	91.61	273.66	7,032.11	-940.52	-7,166.51	7,171.65	1.42	1.11	-0.88
14,368.43	91.77	273.52	7,031.72	-939.68	-7,179.91	7,185.04	1.58	1.19	-1.04



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,381.86	91.92	273.38	7,031.28	-938.87	-7,193.31	7,198.44	1.53	1.12	-1.04
14,395.29	92.08	273.23	7,030.81	-938.10	-7,206.71	7,211.83	1.63	1.19	-1.12
14,408.71	92.23	273.07	7,030.31	-937.36	-7,220.10	7,225.22	1.63	1.12	-1.19
14,422.14	92.36	272.91	7,029.77	-936.66	-7,233.50	7,238.61	1.53	0.97	-1.19
14,435.57	92.46	272.75	7,029.21	-936.00	-7,246.90	7,252.01	1.40	0.74	-1.19
14,449.00	92.52	272.58	7,028.62	-935.37	-7,260.30	7,265.41	1.34	0.45	-1.27
14,462.57	92.52	272.40	7,028.03	-934.78	-7,273.84	7,278.95	1.33	0.00	-1.33
14,476.14	92.47	272.23	7,027.44	-934.24	-7,287.39	7,292.49	1.30	-0.37	-1.25
14,489.71	92.39	272.05	7,026.86	-933.73	-7,300.94	7,306.04	1.45	-0.59	-1.33
14,503.29	92.29	271.87	7,026.31	-933.27	-7,314.50	7,319.60	1.52	-0.74	-1.33
14,516.86	92.18	271.69	7,025.78	-932.84	-7,328.05	7,333.15	1.55	-0.81	-1.33
14,530.43	92.05	271.51	7,025.28	-932.47	-7,341.61	7,346.70	1.64	-0.96	-1.33
14,544.00	91.92	271.33	7,024.81	-932.13	-7,355.17	7,360.26	1.64	-0.96	-1.33
14,557.43	91.76	271.15	7,024.38	-931.84	-7,368.59	7,373.68	1.79	-1.19	-1.34
14,570.86	91.61	270.99	7,023.98	-931.59	-7,382.01	7,387.10	1.63	-1.12	-1.19
14,584.29	91.45	270.82	7,023.62	-931.38	-7,395.43	7,400.52	1.74	-1.19	-1.27
14,597.71	91.31	270.66	7,023.30	-931.20	-7,408.85	7,413.93	1.58	-1.04	-1.19
14,611.14	91.19	270.50	7,023.01	-931.07	-7,422.27	7,427.36	1.49	-0.89	-1.19
14,624.57	91.10	270.35	7,022.74	-930.97	-7,435.70	7,440.78	1.30	-0.67	-1.12
14,638.00	91.07	270.21	7,022.48	-930.90	-7,449.13	7,454.21	1.07	-0.22	-1.04
14,651.43	91.13	270.08	7,022.23	-930.87	-7,462.55	7,467.64	1.07	0.45	-0.97
14,664.86	91.24	269.97	7,021.95	-930.86	-7,475.98	7,481.06	1.16	0.82	-0.82
14,678.29	91.38	269.86	7,021.64	-930.88	-7,489.41	7,494.49	1.33	1.04	-0.82
14,682.27	91.42	269.83	7,021.54	-930.89	-7,493.39	7,498.47	1.39	1.12	-0.82
L08-04-T7500(Dak32-124H)									
14,691.71	91.53	269.75	7,021.30	-930.93	-7,502.82	7,507.91	1.39	1.12	-0.82
14,705.14	91.67	269.63	7,020.92	-931.00	-7,516.25	7,521.33	1.37	1.04	-0.89
14,718.57	91.80	269.51	7,020.52	-931.10	-7,529.67	7,534.75	1.32	0.97	-0.89
14,732.00	91.88	269.37	7,020.09	-931.23	-7,543.09	7,548.18	1.20	0.60	-1.04
14,745.57	91.89	269.21	7,019.64	-931.40	-7,556.66	7,561.74	1.18	0.07	-1.18
14,759.14	91.86	269.03	7,019.20	-931.61	-7,570.22	7,575.30	1.34	-0.22	-1.33
14,772.71	91.81	268.84	7,018.76	-931.86	-7,583.78	7,588.86	1.45	-0.37	-1.40
14,786.29	91.76	268.65	7,018.34	-932.16	-7,597.35	7,602.44	1.45	-0.37	-1.40
14,799.86	91.72	268.46	7,017.93	-932.50	-7,610.91	7,616.00	1.43	-0.29	-1.40
14,813.43	91.63	268.33	7,017.53	-932.88	-7,624.47	7,629.56	1.16	-0.66	-0.96
14,827.00	90.45	269.18	7,017.28	-933.18	-7,638.03	7,643.12	10.72	-8.70	6.26
14,840.43	90.38	269.33	7,017.19	-933.35	-7,651.46	7,656.55	1.23	-0.52	1.12
14,853.86	90.55	269.14	7,017.08	-933.53	-7,664.89	7,669.98	1.90	1.27	-1.41
14,867.29	90.75	268.95	7,016.93	-933.75	-7,678.31	7,683.41	2.05	1.49	-1.41
14,880.71	90.95	268.76	7,016.73	-934.02	-7,691.73	7,696.83	2.06	1.49	-1.42
14,894.14	91.15	268.56	7,016.48	-934.34	-7,705.15	7,710.25	2.11	1.49	-1.49
14,907.57	91.32	268.36	7,016.19	-934.70	-7,718.58	7,723.68	1.95	1.27	-1.49
14,921.00	91.45	268.15	7,015.87	-935.11	-7,732.00	7,737.10	1.84	0.97	-1.56



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
14,934.57	91.51	267.93	7,015.52	-935.57	-7,745.55	7,750.66	1.68	0.44	-1.62	
14,948.14	91.53	267.70	7,015.16	-936.09	-7,759.11	7,764.22	1.70	0.15	-1.69	
14,961.71	91.53	267.48	7,014.79	-936.66	-7,772.66	7,777.77	1.62	0.00	-1.62	
14,975.29	91.53	267.27	7,014.43	-937.28	-7,786.22	7,791.34	1.55	0.00	-1.55	
14,988.86	91.56	267.08	7,014.07	-937.95	-7,799.77	7,804.89	1.42	0.22	-1.40	
15,002.43	90.86	267.79	7,013.78	-938.55	-7,813.32	7,818.44	7.35	-5.16	5.23	
15,016.00	90.22	268.16	7,013.65	-939.03	-7,826.89	7,832.01	5.45	-4.72	2.73	
15,029.43	90.41	268.08	7,013.58	-939.47	-7,840.31	7,845.43	1.54	1.41	-0.60	
15,042.86	90.63	268.04	7,013.45	-939.93	-7,853.73	7,858.86	1.66	1.64	-0.30	
15,056.29	90.88	268.00	7,013.28	-940.39	-7,867.15	7,872.28	1.89	1.86	-0.30	
15,069.71	91.14	267.98	7,013.04	-940.86	-7,880.56	7,885.69	1.94	1.94	-0.15	
15,083.14	91.39	267.95	7,012.74	-941.34	-7,893.98	7,899.11	1.87	1.86	-0.22	
15,096.57	91.62	267.90	7,012.39	-941.83	-7,907.40	7,912.53	1.75	1.71	-0.37	
15,110.00	91.81	267.83	7,011.99	-942.33	-7,920.81	7,925.95	1.51	1.41	-0.52	
15,123.43	91.94	267.72	7,011.55	-942.85	-7,934.22	7,939.36	1.27	0.97	-0.82	
15,136.86	92.03	267.58	7,011.09	-943.40	-7,947.63	7,952.78	1.24	0.67	-1.04	
15,150.29	92.10	267.42	7,010.60	-943.98	-7,961.04	7,966.19	1.30	0.52	-1.19	
15,163.71	92.16	267.27	7,010.10	-944.60	-7,974.44	7,979.59	1.20	0.45	-1.12	
15,177.14	92.24	267.11	7,009.59	-945.26	-7,987.84	7,993.00	1.33	0.60	-1.19	
15,190.57	91.74	267.63	7,009.12	-945.88	-8,001.25	8,006.41	5.37	-3.72	3.87	
15,204.00	90.99	268.54	7,008.80	-946.33	-8,014.67	8,019.83	8.78	-5.58	6.78	
15,217.57	90.43	269.47	7,008.63	-946.56	-8,028.23	8,033.40	8.00	-4.13	6.85	
15,231.14	90.44	269.74	7,008.53	-946.66	-8,041.80	8,046.97	1.99	0.07	1.99	
15,244.71	90.69	269.67	7,008.40	-946.73	-8,055.37	8,060.54	1.91	1.84	-0.52	
15,258.29	90.96	269.60	7,008.20	-946.81	-8,068.95	8,074.11	2.05	1.99	-0.52	
15,271.86	91.22	269.53	7,007.94	-946.92	-8,082.52	8,087.68	1.98	1.92	-0.52	
15,285.43	91.48	269.45	7,007.62	-947.04	-8,096.08	8,101.25	2.00	1.92	-0.59	
15,299.00	91.71	269.36	7,007.24	-947.18	-8,109.65	8,114.81	1.82	1.69	-0.66	
15,312.43	91.88	269.23	7,006.82	-947.34	-8,123.07	8,128.23	1.59	1.27	-0.97	
15,325.86	92.03	269.09	7,006.37	-947.54	-8,136.49	8,141.66	1.53	1.12	-1.04	
15,339.29	92.16	268.94	7,005.88	-947.77	-8,149.91	8,155.08	1.48	0.97	-1.12	
15,352.71	92.30	268.79	7,005.35	-948.04	-8,163.32	8,168.49	1.53	1.04	-1.12	
15,366.14	92.44	268.63	7,004.80	-948.34	-8,176.73	8,181.90	1.58	1.04	-1.19	
15,379.57	92.30	268.82	7,004.24	-948.64	-8,190.15	8,195.32	1.76	-1.04	1.41	
15,393.00	91.34	269.83	7,003.82	-948.79	-8,203.57	8,208.74	10.37	-7.15	7.52	
15,406.57	90.18	270.61	7,003.64	-948.74	-8,217.14	8,222.31	10.30	-8.55	5.75	
15,420.14	89.82	270.48	7,003.64	-948.61	-8,230.71	8,235.88	2.82	-2.65	-0.96	
15,433.71	90.20	270.29	7,003.63	-948.52	-8,244.28	8,249.45	3.13	2.80	-1.40	
15,447.29	90.61	270.09	7,003.54	-948.48	-8,257.86	8,263.03	3.36	3.02	-1.47	
15,460.86	91.01	269.89	7,003.35	-948.48	-8,271.43	8,276.59	3.30	2.95	-1.47	
15,474.43	91.40	269.67	7,003.06	-948.53	-8,284.99	8,290.16	3.30	2.87	-1.62	
15,488.00	91.74	269.44	7,002.69	-948.64	-8,298.56	8,303.73	3.02	2.51	-1.69	
15,501.43	91.98	269.20	7,002.25	-948.80	-8,311.98	8,317.15	2.53	1.79	-1.79	
15,514.86	92.18	268.96	7,001.76	-949.01	-8,325.40	8,330.57	2.33	1.49	-1.79	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
15,528.29	92.34	268.72	7,001.24	-949.28	-8,338.81	8,343.99	2.15	1.19	-1.79	
15,541.71	92.51	268.48	7,000.67	-949.61	-8,352.22	8,357.39	2.19	1.27	-1.79	
15,555.14	92.68	268.28	7,000.06	-949.99	-8,365.63	8,370.81	1.95	1.27	-1.49	
15,568.57	91.81	268.14	6,999.53	-950.41	-8,379.04	8,384.22	6.56	-6.48	-1.04	
15,582.00	90.33	268.22	6,999.28	-950.84	-8,392.46	8,397.64	11.04	-11.02	0.60	
15,595.57	88.85	268.46	6,999.38	-951.23	-8,406.03	8,411.21	11.05	-10.91	1.77	
15,609.14	88.83	268.46	6,999.65	-951.59	-8,419.59	8,424.77	0.15	-0.15	0.00	
15,622.71	89.29	268.40	6,999.88	-951.96	-8,433.15	8,438.34	3.42	3.39	-0.44	
15,636.29	89.77	268.36	6,999.99	-952.35	-8,446.73	8,451.91	3.55	3.53	-0.29	
15,649.86	90.26	268.33	6,999.98	-952.74	-8,460.29	8,465.48	3.62	3.61	-0.22	
15,663.43	90.73	268.30	6,999.87	-953.14	-8,473.85	8,479.05	3.47	3.46	-0.22	
15,677.00	91.16	268.26	6,999.64	-953.55	-8,487.42	8,492.61	3.18	3.17	-0.29	
15,690.43	91.49	268.22	6,999.33	-953.96	-8,500.84	8,506.03	2.48	2.46	-0.30	
15,703.86	91.78	268.17	6,998.95	-954.38	-8,514.25	8,519.45	2.19	2.16	-0.37	
15,717.29	92.05	268.12	6,998.50	-954.82	-8,527.67	8,532.87	2.04	2.01	-0.37	
15,730.71	92.30	268.06	6,997.99	-955.26	-8,541.07	8,546.27	1.92	1.86	-0.45	
15,744.14	92.55	268.00	6,997.42	-955.72	-8,554.48	8,559.69	1.91	1.86	-0.45	
15,757.57	92.83	267.92	6,996.79	-956.20	-8,567.89	8,573.10	2.17	2.08	-0.60	
15,771.00	93.14	267.84	6,996.09	-956.70	-8,581.29	8,586.50	2.38	2.31	-0.60	
15,784.57	93.54	267.74	6,995.30	-957.22	-8,594.83	8,600.04	3.04	2.95	-0.74	
15,798.14	93.97	267.62	6,994.41	-957.77	-8,608.36	8,613.57	3.29	3.17	-0.88	
15,811.71	94.39	267.50	6,993.43	-958.35	-8,621.88	8,627.10	3.22	3.10	-0.88	
15,825.29	94.78	267.38	6,992.34	-958.95	-8,635.40	8,640.62	3.00	2.87	-0.88	
15,838.86	95.10	267.27	6,991.17	-959.58	-8,648.91	8,654.13	2.49	2.36	-0.81	
15,852.43	94.28	267.41	6,990.06	-960.21	-8,662.42	8,667.65	6.13	-6.04	1.03	
15,866.00	93.05	267.82	6,989.19	-960.77	-8,675.95	8,681.18	9.55	-9.06	3.02	
15,879.57	91.94	268.47	6,988.60	-961.21	-8,689.50	8,694.73	9.48	-8.18	4.79	
15,893.14	91.20	268.79	6,988.23	-961.53	-8,703.06	8,708.29	5.94	-5.45	2.36	
15,906.71	90.86	268.70	6,987.99	-961.83	-8,716.62	8,721.86	2.59	-2.51	-0.66	
15,920.29	90.46	268.60	6,987.83	-962.15	-8,730.20	8,735.44	3.04	-2.95	-0.74	
15,933.86	90.05	268.50	6,987.77	-962.50	-8,743.76	8,749.00	3.11	-3.02	-0.74	
15,947.43	89.68	268.41	6,987.80	-962.86	-8,757.33	8,762.57	2.81	-2.73	-0.66	
15,961.00	89.41	268.31	6,987.91	-963.25	-8,770.89	8,776.14	2.12	-1.99	-0.74	
15,974.57	89.34	268.21	6,988.06	-963.66	-8,784.46	8,789.70	0.90	-0.52	-0.74	
15,988.14	89.39	268.12	6,988.21	-964.10	-8,798.02	8,803.27	0.76	0.37	-0.66	
16,001.71	89.52	268.02	6,988.34	-964.55	-8,811.58	8,816.83	1.21	0.96	-0.74	
16,015.29	89.70	267.93	6,988.43	-965.03	-8,825.15	8,830.40	1.48	1.33	-0.66	
16,028.86	89.92	267.84	6,988.48	-965.53	-8,838.71	8,843.97	1.75	1.62	-0.66	
16,042.43	90.15	267.76	6,988.47	-966.05	-8,852.27	8,857.53	1.79	1.69	-0.59	
16,056.00	90.39	267.69	6,988.40	-966.59	-8,865.83	8,871.09	1.84	1.77	-0.52	
16,069.43	90.62	267.62	6,988.29	-967.14	-8,879.25	8,884.51	1.79	1.71	-0.52	
16,082.86	90.84	267.57	6,988.11	-967.71	-8,892.67	8,897.93	1.68	1.64	-0.37	
16,096.29	91.04	267.52	6,987.89	-968.28	-8,906.08	8,911.35	1.54	1.49	-0.37	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
16,109.71	91.21	267.49	6,987.63	-968.87	-8,919.49	8,924.76	1.29	1.27	-0.22	
16,123.14	91.32	267.48	6,987.33	-969.45	-8,932.90	8,938.18	0.82	0.82	-0.07	
16,136.57	91.36	267.50	6,987.02	-970.04	-8,946.31	8,951.59	0.33	0.30	0.15	
16,150.00	91.27	267.56	6,986.71	-970.62	-8,959.73	8,965.01	0.81	-0.67	0.45	
16,163.57	90.99	267.67	6,986.44	-971.19	-8,973.28	8,978.57	2.22	-2.06	0.81	
16,177.14	90.60	267.82	6,986.26	-971.72	-8,986.84	8,992.13	3.08	-2.87	1.11	
16,190.71	90.17	267.98	6,986.16	-972.22	-9,000.40	9,005.69	3.38	-3.17	1.18	
16,204.29	89.74	268.14	6,986.18	-972.68	-9,013.97	9,019.27	3.38	-3.17	1.18	
16,217.86	89.37	268.27	6,986.28	-973.10	-9,027.54	9,032.83	2.89	-2.73	0.96	
16,231.43	89.08	269.44	6,986.46	-973.37	-9,041.10	9,046.40	8.88	-2.14	8.62	
16,245.00	88.66	270.54	6,986.73	-973.38	-9,054.67	9,059.97	8.68	-3.10	8.11	
16,258.57	88.25	271.10	6,987.10	-973.18	-9,068.23	9,073.53	5.11	-3.02	4.13	
16,272.14	88.32	271.06	6,987.50	-972.93	-9,081.80	9,087.09	0.59	0.52	-0.29	
16,285.71	88.44	271.01	6,987.89	-972.68	-9,095.36	9,100.65	0.96	0.88	-0.37	
16,299.29	88.59	270.94	6,988.24	-972.45	-9,108.93	9,114.22	1.22	1.10	-0.52	
16,312.86	88.76	270.86	6,988.55	-972.24	-9,122.50	9,127.78	1.38	1.25	-0.59	
16,326.43	88.94	270.78	6,988.83	-972.04	-9,136.06	9,141.35	1.45	1.33	-0.59	
16,340.00	89.11	270.69	6,989.06	-971.87	-9,149.63	9,154.91	1.42	1.25	-0.66	
16,353.43	89.24	270.60	6,989.25	-971.72	-9,163.06	9,168.34	1.18	0.97	-0.67	
16,366.86	89.36	270.50	6,989.41	-971.59	-9,176.48	9,181.77	1.16	0.89	-0.74	
16,380.29	89.48	270.41	6,989.55	-971.48	-9,189.91	9,195.20	1.12	0.89	-0.67	
16,393.71	89.60	270.31	6,989.66	-971.40	-9,203.33	9,208.61	1.16	0.89	-0.75	
16,407.14	89.71	270.21	6,989.74	-971.34	-9,216.76	9,222.04	1.11	0.82	-0.74	
16,420.57	89.84	270.11	6,989.79	-971.30	-9,230.19	9,235.47	1.22	0.97	-0.74	
16,434.00	89.99	270.00	6,989.81	-971.29	-9,243.62	9,248.90	1.39	1.12	-0.82	
16,447.57	90.17	269.89	6,989.79	-971.30	-9,257.19	9,262.47	1.55	1.33	-0.81	
16,461.14	90.36	269.77	6,989.73	-971.34	-9,270.76	9,276.04	1.66	1.40	-0.88	
16,474.71	90.57	269.66	6,989.62	-971.41	-9,284.33	9,289.61	1.75	1.55	-0.81	
16,488.29	90.77	269.55	6,989.46	-971.50	-9,297.91	9,303.19	1.68	1.47	-0.81	
16,501.86	90.97	269.43	6,989.25	-971.62	-9,311.48	9,316.76	1.72	1.47	-0.88	
16,515.43	91.16	269.33	6,989.00	-971.77	-9,325.04	9,330.33	1.58	1.40	-0.74	
16,529.00	91.33	269.23	6,988.71	-971.94	-9,338.61	9,343.89	1.45	1.25	-0.74	
16,542.43	91.46	269.14	6,988.38	-972.13	-9,352.04	9,357.32	1.18	0.97	-0.67	
16,555.86	91.56	269.07	6,988.03	-972.34	-9,365.46	9,370.74	0.91	0.74	-0.52	
16,569.29	91.66	269.00	6,987.65	-972.57	-9,378.88	9,384.17	0.91	0.74	-0.52	
16,582.71	91.76	268.94	6,987.25	-972.81	-9,392.29	9,397.58	0.87	0.75	-0.45	
16,596.14	91.87	268.88	6,986.82	-973.06	-9,405.71	9,411.00	0.93	0.82	-0.45	
16,609.57	91.99	268.84	6,986.37	-973.33	-9,419.13	9,424.42	0.94	0.89	-0.30	
16,623.00	92.14	268.82	6,985.89	-973.60	-9,432.55	9,437.84	1.13	1.12	-0.15	
16,636.57	92.34	268.83	6,985.36	-973.88	-9,446.11	9,451.40	1.48	1.47	0.07	
16,650.14	92.57	268.85	6,984.78	-974.16	-9,459.66	9,464.96	1.70	1.69	0.15	
16,663.71	92.81	268.87	6,984.14	-974.43	-9,473.22	9,478.51	1.77	1.77	0.15	
16,677.29	93.04	268.88	6,983.45	-974.69	-9,486.78	9,492.07	1.70	1.69	0.07	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,690.86	93.25	268.88	6,982.70	-974.96	-9,500.32	9,505.62	1.55	1.55	0.00
16,704.43	93.42	268.84	6,981.91	-975.23	-9,513.87	9,519.17	1.29	1.25	-0.29
16,718.00	93.51	268.75	6,981.09	-975.51	-9,527.41	9,532.71	0.94	0.66	-0.66
16,731.43	93.49	268.58	6,980.27	-975.82	-9,540.81	9,546.11	1.27	-0.15	-1.27
16,744.86	93.40	268.37	6,979.46	-976.18	-9,554.21	9,559.51	1.70	-0.67	-1.56
16,758.29	93.28	268.13	6,978.68	-976.59	-9,567.61	9,572.92	2.00	-0.89	-1.79
16,771.71	93.17	267.89	6,977.93	-977.05	-9,581.00	9,586.31	1.96	-0.82	-1.79
16,785.14	93.09	267.68	6,977.19	-977.57	-9,594.40	9,599.71	1.67	-0.60	-1.56
16,798.57	92.28	268.77	6,976.56	-977.99	-9,607.81	9,613.12	10.10	-6.03	8.12
16,812.00	91.40	269.99	6,976.13	-978.13	-9,621.23	9,626.55	11.20	-6.55	9.08
16,825.57	91.07	270.36	6,975.84	-978.09	-9,634.80	9,640.11	3.65	-2.43	2.73
16,839.14	91.24	270.28	6,975.57	-978.02	-9,648.37	9,653.68	1.38	1.25	-0.59
16,852.71	91.45	270.22	6,975.25	-977.96	-9,661.93	9,667.24	1.61	1.55	-0.44
16,866.29	91.68	270.17	6,974.88	-977.91	-9,675.51	9,680.82	1.73	1.69	-0.37
16,879.86	91.92	270.13	6,974.45	-977.88	-9,689.07	9,694.38	1.79	1.77	-0.29
16,893.43	92.17	270.11	6,973.97	-977.85	-9,702.63	9,707.94	1.85	1.84	-0.15
16,907.00	92.43	270.09	6,973.42	-977.82	-9,716.19	9,721.50	1.92	1.92	-0.15
16,920.43	92.69	270.10	6,972.82	-977.80	-9,729.61	9,734.92	1.94	1.94	0.07
16,933.86	92.96	270.12	6,972.16	-977.78	-9,743.02	9,748.33	2.02	2.01	0.15
16,947.29	93.21	270.15	6,971.44	-977.74	-9,756.43	9,761.74	1.87	1.86	0.22
16,960.71	93.45	270.17	6,970.66	-977.71	-9,769.83	9,775.14	1.79	1.79	0.15
16,974.14	93.67	270.19	6,969.83	-977.66	-9,783.23	9,788.54	1.64	1.64	0.15
16,987.57	93.85	270.20	6,968.94	-977.62	-9,796.64	9,801.94	1.34	1.34	0.07
17,001.00	93.98	270.20	6,968.03	-977.57	-9,810.03	9,815.34	0.97	0.97	0.00
17,014.57	94.03	270.16	6,967.08	-977.53	-9,823.57	9,828.88	0.47	0.37	-0.29
17,028.14	94.02	270.10	6,966.13	-977.50	-9,837.11	9,842.41	0.45	-0.07	-0.44
17,041.71	93.98	270.02	6,965.18	-977.48	-9,850.64	9,855.95	0.66	-0.29	-0.59
17,055.29	93.90	269.93	6,964.25	-977.49	-9,864.19	9,869.50	0.89	-0.59	-0.66
17,068.86	93.81	269.81	6,963.34	-977.52	-9,877.73	9,883.04	1.10	-0.66	-0.88
17,082.43	93.70	269.66	6,962.45	-977.58	-9,891.27	9,896.58	1.37	-0.81	-1.11
17,096.00	93.57	269.47	6,961.59	-977.69	-9,904.81	9,910.12	1.69	-0.96	-1.40
17,109.43	93.41	269.22	6,960.77	-977.84	-9,918.22	9,923.52	2.21	-1.19	-1.86
17,122.86	93.26	268.94	6,959.99	-978.05	-9,931.62	9,936.93	2.36	-1.12	-2.08
17,136.29	93.11	268.64	6,959.24	-978.34	-9,945.03	9,950.34	2.49	-1.12	-2.23
17,149.71	93.00	268.36	6,958.53	-978.69	-9,958.43	9,963.74	2.24	-0.82	-2.09
17,163.14	92.93	268.10	6,957.83	-979.10	-9,971.83	9,977.14	2.00	-0.52	-1.94
17,176.57	91.80	268.59	6,957.28	-979.49	-9,985.24	9,990.56	9.17	-8.41	3.65
17,185.31	91.14	268.90	6,957.05	-979.68	-9,993.98	9,999.30	8.29	-7.52	3.50
L08-05-T10000(Dak32-124H)									
17,190.00	90.79	269.06	6,956.97	-979.77	-9,998.67	10,003.98	8.29	-7.52	3.50
17,203.43	90.64	269.03	6,956.81	-979.99	-10,012.10	10,017.41	1.14	-1.12	-0.22
17,216.86	90.93	268.94	6,956.62	-980.23	-10,025.52	10,030.84	2.26	2.16	-0.67
17,230.29	91.25	268.89	6,956.37	-980.48	-10,038.95	10,044.27	2.41	2.38	-0.37
17,243.71	91.57	268.84	6,956.04	-980.75	-10,052.36	10,057.68	2.41	2.38	-0.37



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,257.14	91.88	268.81	6,955.63	-981.02	-10,065.78	10,071.10	2.32	2.31	-0.22
17,270.57	92.13	268.78	6,955.16	-981.31	-10,079.20	10,084.52	1.87	1.86	-0.22
17,284.00	92.29	268.76	6,954.64	-981.59	-10,092.62	10,097.94	1.20	1.19	-0.15
17,297.57	92.29	268.74	6,954.10	-981.89	-10,106.17	10,111.50	0.15	0.00	-0.15
17,311.14	92.20	268.72	6,953.57	-982.19	-10,119.73	10,125.06	0.68	-0.66	-0.15
17,324.71	92.05	268.70	6,953.07	-982.49	-10,133.29	10,138.62	1.12	-1.11	-0.15
17,338.29	91.90	268.69	6,952.60	-982.80	-10,146.86	10,152.19	1.11	-1.10	-0.07
17,351.86	91.31	269.13	6,952.22	-983.06	-10,160.42	10,165.75	5.42	-4.35	3.24
17,365.43	91.06	269.26	6,951.94	-983.25	-10,173.98	10,179.32	2.08	-1.84	0.96
17,379.00	91.03	269.25	6,951.69	-983.43	-10,187.55	10,192.88	0.23	-0.22	-0.07
17,392.43	91.11	269.25	6,951.44	-983.60	-10,200.98	10,206.31	0.60	0.60	0.00
17,405.86	91.27	269.24	6,951.16	-983.78	-10,214.40	10,219.74	1.19	1.19	-0.07
17,419.29	91.48	269.24	6,950.84	-983.96	-10,227.83	10,233.16	1.56	1.56	0.00
17,432.71	91.74	269.23	6,950.46	-984.14	-10,241.24	10,246.58	1.94	1.94	-0.07
17,446.14	92.02	269.22	6,950.02	-984.32	-10,254.66	10,260.00	2.09	2.08	-0.07
17,459.57	92.34	269.21	6,949.51	-984.50	-10,268.08	10,273.42	2.38	2.38	-0.07
17,473.00	92.68	269.19	6,948.92	-984.69	-10,281.50	10,286.84	2.54	2.53	-0.15
17,487.00	93.08	269.15	6,948.22	-984.89	-10,295.48	10,300.82	2.87	2.86	-0.29
17,501.00	93.50	269.10	6,947.42	-985.11	-10,309.45	10,314.79	3.02	3.00	-0.36
17,515.00	93.91	269.05	6,946.51	-985.33	-10,323.42	10,328.76	2.95	2.93	-0.36
17,521.47	94.09	269.03	6,946.06	-985.44	-10,329.87	10,335.22	2.88	2.86	-0.36
L08-06-LTP (Dak32-124H)									
17,529.00	94.31	269.00	6,945.51	-985.57	-10,337.38	10,342.73	2.88	2.86	-0.36
100FWL: 17529.00' MD, 10342.73' VS, 6945.51' TVD									
17,543.00	94.65	268.95	6,944.41	-985.82	-10,351.34	10,356.68	2.45	2.43	-0.36
Final MWD Survey: 17543.00' MD, 94.65°INC, 268.95°AZ									
17,557.75	94.93	268.91	6,943.18	-986.09	-10,366.03	10,371.38	1.92	1.90	-0.27
17,572.50	95.16	268.87	6,941.89	-986.38	-10,380.72	10,386.07	1.58	1.56	-0.27
17,587.25	95.35	268.84	6,940.53	-986.67	-10,395.41	10,400.76	1.30	1.29	-0.20
17,602.00	95.52	268.81	6,939.14	-986.97	-10,410.09	10,415.44	1.17	1.15	-0.20
17,602.09	95.52	268.81	6,939.13	-986.98	-10,410.18	10,415.53	0.00	0.00	0.00
PTB: 17602.09' MD, 95.52°INC, 268.81°AZ - L08-08-PBHL(Dak32-124H)									



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 04 Dakota 32 State Fed Com 124H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	04 Dakota 32 State Fed Com 124H	North Reference:	Grid
Wellbore:	124H	Survey Calculation Method:	Minimum Curvature
Design:	124H	Database:	EDM 5000.14 Single User Db

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
171.00	171.00	Rustler				
226.00	226.00	Top of Salt				
533.11	533.00	Base of Salt				
751.20	751.00	Yates				
1,596.25	1,591.00	Capitan				
2,997.88	2,976.00	DLWR Mnt. Group				
3,411.07	3,385.00	Lower Brushy Canyon				
3,850.22	3,821.00	Bone Spring Lime				
5,811.42	5,761.00	1st Bone Spring SD				
5,872.06	5,821.00	2nd Bone Spring LM				
7,044.49	6,946.00	2nd Bone Spring SD				

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
6,737.00	6,677.34	-803.92	183.88	KOP: 6737.00' MD, -179.39' VS, 6677.34' TVD	
6,872.00	6,805.89	-818.32	147.51	100FEL: 6872.00' MD, -142.93' VS, 6805.89' TVD	
7,733.00	7,245.93	-886.93	-554.43	EOC: 7733.00' MD, 559.38' VS, 7245.93' TVD	
17,529.00	6,945.51	-985.57	-10,337.38	100FWL: 17529.00' MD, 10342.73' VS, 6945.51' TVD	
17,543.00	6,944.41	-985.82	-10,351.34	Final MWD Survey: 17543.00' MD, 94.65° INC, 268.95° AZ	
17,602.09	6,939.13	-986.98	-10,410.18	PTB: 17602.09' MD, 95.52° INC, 268.81° AZ	

Checked By: _____	Approved By: _____	Date: _____
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Office
 District I – (575) 393-6161
 1625 N. French Dr., Hobbs, NM 88240
 District II – (575) 748-1283
 811 S. First St., Artesia, NM 88210
 District III – (505) 334-6178
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV – (505) 476-3460
 1220 S. St. Francis Dr., Santa Fe, NM
 87505

State of New Mexico
 Energy, Minerals and Natural Resources

Form C-103
 Revised July 18, 2013

OIL CONSERVATION DIVISION
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

WELL API NO. 30-015-47740
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Dakota 32 State Federal Com
8. Well Number 124H
9. OGRID Number 371449
10. Pool name or Wildcat Winchester; Bone Spring, West
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3,341 GL

SUNDRY NOTICES AND REPORTS ON WELLS
 (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐

2. Name of Operator
 Colgate Operating, LLC

3. Address of Operator
 300 North Marienfeld, Suite 1,000 – Midland, Tx 79701

4. Well Location

Unit Letter: P 1,253 feet from the South line and 300 feet from the East line

Section: 32 Township: 19S Range: 28E NMPM County: Eddy

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
 TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
 PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
 DOWNHOLE COMMINGLE ☐
 CLOSED-LOOP SYSTEM ☐
 OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
 COMMENCE DRILLING OPNS. ☐ P AND A ☐
 CASING/CEMENT JOB ☐
 OTHER: New Well Completion ☒

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Colgate Operating, LLC has completed the following:

08/26/2021- Pressured up casing to 7,250 psi with a 15 minute test

09/09/2021- Perf and frac stages 1-55.

Perfs 7,769 – 17,369

Frac with 385,642 bbl liquid and 19,513,521 lbs of proppant

09/23/2021- Drilled out plugs

Turn over to production.

TD 17,602 - PBTD 17,488

Spud Date: 05/22/2021

Rig Release Date: 06/04/2021

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE: 

TITLE: Operations Tech

DATE: 12/09/2021

Type or print name Mikah Thomas

E-mail address: mthomas@colgateenergy.com

PHONE: 432-695-4272

For State Use Only

APPROVED BY: _____ TITLE: _____ DATE: _____

Conditions of Approval (if any):

Submit To Appropriate District Office Two Copies <u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 811 S. First St., Artesia, NM 88210 <u>District III</u> 1000 Rio Brazos Rd., Aztec, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505		State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505			Form C-105 Revised April 3, 2017					
WELL COMPLETION OR RECOMPLETION REPORT AND LOG								1. WELL API NO. 30-015-47740		
4. Reason for filing: ☒ COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only) ☐ C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)								2. Type of Lease ☒ STATE ☐ FEE ☐ FED/INDIAN		
								3. State Oil & Gas Lease No.		
5. Lease Name or Unit Agreement Name Dakota 32 State Federal Com										
6. Well Number: 124H										
7. Type of Completion: ☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER										
8. Name of Operator Colgate Operating, LLC						9. OGRID 371449				
10. Address of Operator 300 North Marcienfeld, Suite 1,000 Midland, Texas 79705						11. Pool name or Wildcat Winchester; Bone Spring, West				
12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:	P	32	19S	28E		1,253	South	300	East	Eddy
BH:	M	31	19S	28E		324	South	30	West	Eddy
13. Date Spudded 05/22/2021	14. Date T.D. Reached 05/31/2021	15. Date Rig Released 06/04/2021			16. Date Completed (Ready to Produce) 09/23/2021			17. Elevations (DF and RKB, RT, GR, etc.) 3,341		
18. Total Measured Depth of Well 17,602			19. Plug Back Measured Depth 17,488			20. Was Directional Survey Made? Yes		21. Type Electric and Other Logs Run Gamma Ray		
22. Producing Interval(s), of this completion - Top, Bottom, Name 7,769-17,369 Bone Spring										
23. CASING RECORD (Report all strings set in well)										
CASING SIZE		WEIGHT LB./FT.		DEPTH SET		HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED
13.375		54.5		295		17.5		Prem Plus 376 sx 1.35		
9.625		36		2,893		12.25		Prem Plus 586 sx 1.81, 199 sx 1.33		
5.5		17		17,588		8.75		Prem 464 sx 2.71, 1,611 sx 1.94		
24. LINER RECORD										
SIZE	TOP	BOTTOM	SACKS CEMENT		SCREEN		25. TUBING RECORD			
							SIZE			
							DEPTH SET			
							PACKER SET			
26. Perforation record (interval, size, and number) 7,769-17,369 3.0 1,821 holes						27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.				
						DEPTH INTERVAL		AMOUNT AND KIND MATERIAL USED		
						7,769-17,369		Total Proppant 19,513,521 – Total Fluid 385,642		
28. PRODUCTION										
Date First Production 10/08/2021		Production Method (<i>Flowing, gas lift, pumping - Size and type pump</i>) Gas Lift				Well Status (<i>Prod. or Shut-in</i>) Producing				
Date of Test 11/13/2021	Hours Tested 24	Choke Size 64/88	Prod'n For Test Period	Oil – Bbl 1,414	Gas – MCF 1,187	Water – Bbl. 2,493	Gas - Oil Ratio			
Flow Tubing Press. 1765	Casing Pressure 468	Calculated 24-Hour Rate	Oil - Bbl. 1414	Gas - MCF 1187	Water - Bbl. 2493	Oil Gravity - API - (<i>Corr.</i>) 45.6				
29. Disposition of Gas (<i>Sold, used for fuel, vented, etc.</i>) Sold							30. Test Witnessed By Colgate Operating, LLC			
31. List Attachments C-102, C-104, Directionnel Survey										
32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.							33. Rig Release Date:			
34. If an on-site burial was used at the well, report the exact location of the on-site burial:										
Latitude				Longitude				NAD83		

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature Printed
Name: Mikah Thomas

Title: Operations Tech

Date: 12/09/2021

E-mail Address: mthomas@colgateenergy.com

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico		Northwestern New Mexico	
T. Rustler- 171	T. Canyon	T. Ojo Alamo	T. Penn A"
T. Salt- 226	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt- 533	T. Atoka	T. Fruitland	T. Penn. "C"
T. Yates- 751	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. DLWR Mnt. Group- 2,976	T. Devonian	T. Cliff House	T. Leadville
T. L Brushy Canyon- 3,385	T. Silurian	T. Menefee	T. Madison
T. BS Lime- 3,850	T. Montoya	T. Point Lookout	T. Elbert
T. 1 st Bone Spring SD- 5,761	T. Simpson	T. Mancos	T. McCracken
T. 2 nd Bone Spring LM- 5,821	T. McKee	T. Gallup	T. Ignacio Otzte
T. 2 nd Bone Spring SD- 6,946	T. Ellenburger	Base Greenhorn	T. Granite
T. 3 rd Bone Spring LM-	T. Gr. Wash	T. Dakota	
T. 3 rd Bone Spring SD-	T. Delaware Sand	T. Morrison	
T. Drinkard	T. Bone Springs	T. Todilto	
T. Abo	T.	T. Entrada	
T. Wolfcamp	T.	T. Wingate	
T. Penn	T.	T. Chinle	
T. Cisco (Bough C)	T.	T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from.....to.....

No. 3, from.....to.....

No. 2, from.....to.....

No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....

No. 2, from.....to.....feet.....

No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology	From	To	Thickness In Feet	Lithology
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District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

ACKNOWLEDGMENTS

Action 66066

ACKNOWLEDGMENTS

Operator: COLGATE OPERATING, LLC 300 North Marienfeld Street Midland, TX 79701	OGRID: 371449
	Action Number: 66066
	Action Type: [C-104] Completion Packet (C-104C)

ACKNOWLEDGMENTS

☒	I hereby certify that the required Water Use Report has been, or will be, submitted for this wells completion.
☒	I hereby certify that the required FracFocus disclosure has been, or will be, submitted for this wells completion.

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 66066

CONDITIONS

Operator: COLGATE OPERATING, LLC 300 North Marienfeld Street Midland, TX 79701	OGRID: 371449
	Action Number: 66066
	Action Type: [C-104] Completion Packet (C-104C)

CONDITIONS

Created By	Condition	Condition Date
plmartinez	File 3160-4 Completion Report and 3160-5 Completion Sundry within 10 days to NMOCD after BLM approval.	12/10/2021